

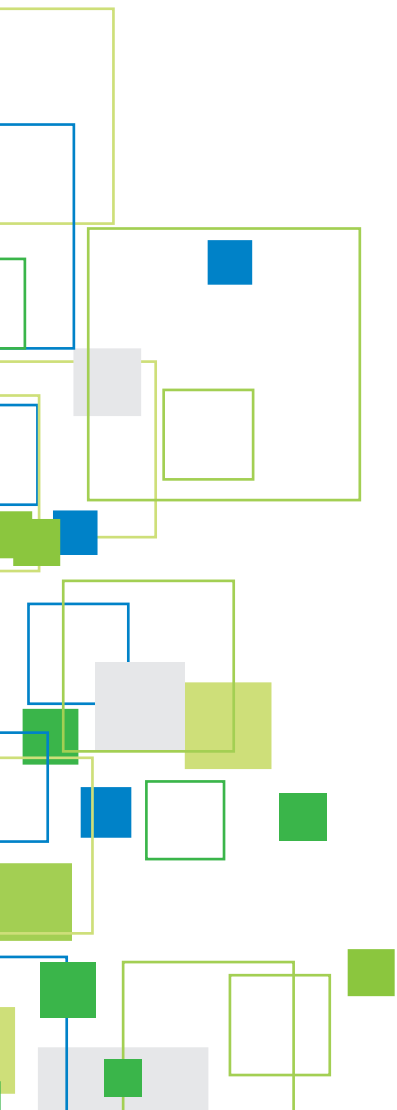


National Health Performance Authority

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Hospital Performance:

Costs of acute admitted patients in public hospitals in 2011–12





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ISSN: 2201-3091

Print ISBN: 978-1-76007-184-4

Online ISBN: 978-1-76007-185-1

Suggested citation: National Health Performance Authority 2015, *Hospital Performance: Costs of acute admitted patients in public hospitals in 2011–12*.

Further copies of this document can be downloaded from www.myhospitals.gov.au

Published April 2015.

Please note that there is the potential for minor revisions of this report.

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<i>Technical Supplement</i>	

Summary

Hospitals account for a large share of the funds Australia spends on the health sector each year. In 2011–12, about 30% of the estimated \$140.2 billion that Australia spent on health was spent on running costs for public hospitals (excluding property, plant and equipment costs).¹ Having effective measures to help assess the efficiency of hospitals is therefore important, because the size of the hospital sector means efforts to improve efficiency, if well targeted, have a large potential to yield significant benefits.

One way to assess hospital efficiency is to see how much money each hospital uses in comparison to its peers to provide specific treatments or procedures. Conducting such comparisons is however very difficult, because sicker or more complex patients cost more to treat, and because there are a variety of reasons why some cost variations are unavoidable or why some hospitals use more resources than others. It is important to adjust for unavoidable cost variations and to adjust for these other differences before comparisons can be considered meaningful.

This report is the result of innovative development work by the National Health Performance Authority (the Authority) that for the first time allows these meaningful comparisons of the relative efficiency of more than 80 of Australia's largest public hospitals.

To achieve this, the Authority includes two headline measures in the report, Cost per National Weighted Activity Unit (NWAU) and Comparable Cost of Care, both of which adjust as much as possible for the factors that can push hospital costs up unavoidably or in ways that mean they cannot fairly be compared to others. The main difference between the two measures is that Comparable Cost of Care includes emergency department (ED) costs for patients admitted through EDs (**Figure 1, page iv**).

The first part of the report compares the overall performance of Australian public hospitals using Cost per NWAU and Comparable Cost of Care for acute admitted patients. Both measures report costs for activity units, which allow different treatments and operations to be compared fairly. The second part of the report breaks this down further into costs across major hospitals for 16 selected medical conditions or surgical procedures.

Key findings

Some hospitals were found to have **twice** the average cost per unit of activity in 2011–12 compared to others in the same peer group, after adjusting for the different types of services provided and complexity of patients (**Figure 2, page 11 and Figure 3, page 13**). The report highlights the top 10% and bottom 10% for **major metropolitan** hospitals (see tables, page iv). The highest and lowest results for **large metropolitan** and **major regional** hospitals are highlighted on pages 11 and 13.

Across the different types of hospitals in Australia, the average cost per unit of activity for acute admitted patients was as follows:

- Using Cost per NWAU: costs were more than **twice as high** from the lowest to the highest hospital, ranging from \$3,100 to \$6,400
- Using Comparable Cost of Care: costs were **almost twice as high** from the lowest to the highest hospital, ranging from \$3,700 to \$6,800.

The results are broadly the same for the two different measures, Cost per NWAU and Comparable Cost of Care.

Cost per NWAU

Across **major metropolitan** hospitals, the average Cost per NWAU for acute admitted patients at one hospital was **87% higher** compared to another hospital, ranging from \$3,100 to \$5,800.

Top 10% of hospitals for this peer group:

\$5,800	The Canberra Hospital (ACT)
\$5,500	Sir Charles Gairdner Hospital (WA)
\$5,300	Calvary Public Hospital (ACT)
\$5,300	Logan Hospital (Qld)

Bottom 10% of hospitals for this peer group:

\$3,400	Dandenong Hospital (Vic)
\$3,400	Royal Melbourne Hospital [Parkville] (Vic)
\$3,400	Sunshine Hospital (Vic)
\$3,400	The Northern Hospital [Epping] (Vic)
\$3,100	Maroondah Hospital [East Ringwood] (Vic)

Comparable Cost of Care

Across **major metropolitan** hospitals, the Comparable Cost of Care for acute admitted patients at one hospital was **76% higher** compared to another hospital, ranging from \$3,700 to \$6,500.

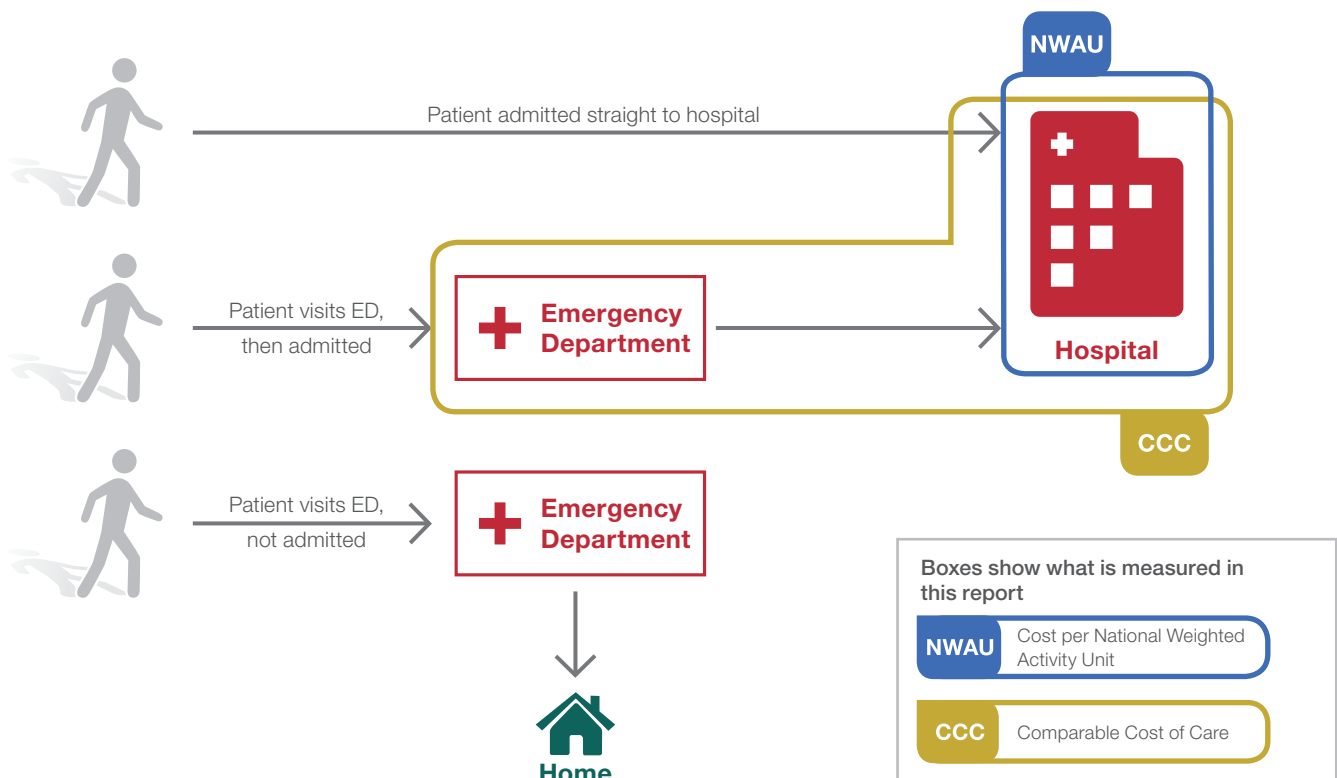
Top 10% of hospitals for this peer group:

\$6,500	The Canberra Hospital (ACT)
\$6,300	Calvary Public Hospital (ACT)
\$5,900	Sir Charles Gairdner Hospital (WA)
\$5,700	Logan Hospital (Qld)
\$5,700	The Prince Charles Hospital (Qld)

Bottom 10% of hospitals for this peer group:

\$3,900	Royal Melbourne Hospital [Parkville] (Vic)
\$3,900	Sunshine Hospital (Vic)
\$3,900	The Northern Hospital [Epping] (Vic)
\$3,900	Western Hospital [Footscray] (Vic)
\$3,800	Dandenong Hospital (Vic)
\$3,700	Maroondah Hospital [East Ringwood] (Vic)

Figure 1: What is measured: the difference between Cost per NWAU and Comparable Cost of Care



Across **large metropolitan** hospitals:

- The average Cost per NWAU for acute admitted patients at one hospital was **96% higher** compared to another hospital, ranging from \$3,200 to \$6,400 (**Figure 2, page 11**)
- The Comparable Cost of Care for acute admitted patients at one hospital was **71% higher** compared to another hospital, ranging from \$4,000 to \$6,800 (**Figure 3, page 13**).

Across **major regional** hospitals:

- The average Cost per NWAU for acute admitted patients at one hospital was **46% higher** compared to another hospital, ranging from \$3,600 to \$5,300 (**Figure 2, page 11**)
- The Comparable Cost of Care for acute admitted patients at one hospital was **36% higher** compared to another hospital, ranging from \$4,200 to \$5,800 (**Figure 3, page 13**).

Conditions and procedures

The report provides the average cost per admission for 16 conditions and procedures, which together represent major areas of medical and surgical care, for **major metropolitan** and **major regional** public hospitals.

The report found the cost of some conditions and procedures were nearly **four times higher** when comparing hospitals against their peers.

It is important to note that cost figures for the 16 conditions and procedures are not adjusted to take account of differences in the complexity of the condition or patient characteristics that can lead to legitimate increases in costs. They also do not reflect 100% of the actual costs for each condition or procedure. The quoted costs are instead a subset of total costs that are considered comparable (**see 'More about the contextual measures', page 6**).

Appendix removal without complications

In 2011–12, there were 13,099 admissions for appendix removal without complications in major public hospitals. In **major metropolitan** public hospitals the average cost per admission was \$6,300. These hospitals reported an average cost per admission ranging from \$4,600 at one hospital to \$10,100 at another hospital.

Cellulitis without complications

In 2011–12, there were 23,432 admissions for cellulitis without complications in major public hospitals. In **major metropolitan** public hospitals the average cost per admission was \$3,800. These hospitals reported an average cost per admission ranging from \$1,900 at one hospital to \$7,400 at another hospital.

Chronic obstructive pulmonary disease without complications

In 2011–12, there were 20,764 admissions for chronic obstructive pulmonary disease (COPD) without complications in major public hospitals. In **major metropolitan** public hospitals the average cost per admission was \$5,500. These hospitals reported an average cost per admission ranging from \$3,300 at one hospital to \$10,500 at another hospital.

Chronic obstructive pulmonary disease with complications

In 2011–12, there were 7,187 admissions for chronic obstructive pulmonary disease (COPD) with complications in major public hospitals. In **major metropolitan** public hospitals the average cost per admission was \$9,700. These hospitals reported an average cost per admission ranging from \$5,900 at one hospital to \$15,700 at another hospital.

Heart failure without complications

In 2011–12, there were 13,726 admissions for heart failure without complications in major public hospitals. In **major metropolitan** public hospitals the average cost per admission was \$5,600. These hospitals reported an average cost per admission ranging from \$2,600 at one hospital to \$9,500 at another hospital.

Heart failure with complications

In 2011–12, there were 7,264 admissions for heart failure with complications in major public hospitals. In **major metropolitan** public hospitals the average cost per admission was \$11,800. These hospitals reported an average cost per admission ranging from \$7,500 at one hospital to \$24,800 at another hospital.

Kidney and urinary tract infections without complications

In 2011–12, there were 19,628 admissions for kidney and urinary tract infections without complications in major public hospitals. In **major metropolitan** public hospitals the average cost per admission was \$3,400. These hospitals reported an average cost per admission ranging from \$1,900 at one hospital to \$5,600 at another hospital.

Kidney and urinary tract infections with complications

In 2011–12, there were 8,821 admissions for kidney and urinary tract infections with complications in major public hospitals. In **major metropolitan** public hospitals the average cost per admission was \$9,000. These hospitals reported an average cost per admission ranging from \$5,500 at one hospital to \$14,600 at another hospital.

Hip replacement without complications

In 2011–12, there were 6,729 hip replacements without complications in major public hospitals. In **major metropolitan** public hospitals the average cost per admission was \$19,400. These hospitals reported an average cost per admission ranging from \$12,500 at one hospital to \$25,600 at another hospital.

Knee replacement without complications

In 2011–12, there were 5,613 knee replacements without complications in major public hospitals. In **major metropolitan** public hospitals the average cost per admission was \$18,800. These hospitals reported an average cost per admission ranging from \$10,600 at one hospital to \$29,300 at another hospital.

Gallbladder removal without complications

In 2011–12, there were 13,034 admissions for gallbladder removal without complications in major public hospitals. In **major metropolitan** public hospitals the average cost per admission was \$7,400. These hospitals reported an average cost per admission ranging from \$4,800 at one hospital to \$13,000 at another hospital.

Prostate removal without complications

In 2011–12, there were 3,438 admissions for prostate removal without complications in major public hospitals. In **major metropolitan** public hospitals the average cost per admission was \$6,300. These hospitals reported an average cost per admission ranging from \$4,700 at one hospital to \$7,500 at another hospital.

Vaginal delivery without complications

In 2011–12, there were 53,234 vaginal deliveries without complications in major public hospitals. In **major metropolitan** public hospitals the average cost per admission was \$4,600. These hospitals reported an average cost per admission ranging from \$2,200 at one hospital to \$6,500 at another hospital.

Caesarean delivery without complications

In 2011–12, there were 23,935 caesarean deliveries without complications in major public hospitals. In **major metropolitan** public hospitals the average cost per admission was \$8,800. These hospitals reported an average cost per admission ranging from \$5,500 at one hospital to \$15,300 at another hospital.

Gynaecological reconstructive procedures without complications

In 2011–12, there were 2,793 admissions for gynaecological reconstructive procedures without complications in major public hospitals. In **major metropolitan** public hospitals the average cost per admission was \$6,300. These hospitals reported an average cost per admission ranging from \$4,100 at one hospital to \$8,000 at another hospital.

Hysterectomy without complications

In 2011–12, there were 4,373 admissions for hysterectomy without complications in major public hospitals. In **major metropolitan** public hospitals the average cost per admission was \$9,200. These hospitals reported an average cost per admission ranging from \$5,400 at one hospital to \$19,900 at another hospital.

About relative efficiency

The efficiency of Australia's health system would increase if steps were taken to reduce hospital costs while retaining or improving quality of care and patient outcomes.

The two main measures used in the report, Cost per NWAU and Comparable Cost of Care, use different methods of calculation. Both include the cost of acute admitted patients; one excludes the cost of emergency department (ED) services and one includes it for those who are admitted through ED. Results for individual hospitals are broadly the same regardless of which measure is used; in other words, hospitals that appear either more or less efficient using one measure have very similar results using the other measure. The fact that results for hospitals are similar using both measures creates additional confidence in the reliability of the report's findings.

While the report compares the relative efficiency of hospitals by comparing the average cost of a unit of activity, it has not been possible in this report to consider the quality of care provided, or the health outcomes experienced by patients. As a result, it is not possible to conclude whether a hospital with lower or higher cost per unit of activity provides better or worse health outcomes than other hospitals, and therefore the Authority makes no determination in this report that any particular hospital is performing well or poorly.

MyHospitals


Informing patients, supporting clinicians, driving improvement

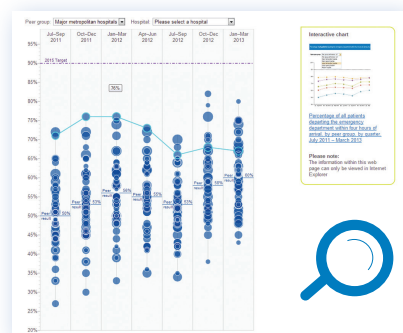
Explore performance information for more than 1,000 public and private hospitals in Australia at www.myhospitals.gov.au

Find out how your hospital is performing, search for a hospital by state or territory or postcode, view a hospital's profile and the services it offers, and see the changes in performance results over time.

MyHospitals also has a variety of tools to compare hospital performance outcomes across Australia. You can use our interactive tools to access new valuable performance reporting information on the following measures:

- Cost per NWAU (2011–12)
- Comparable Cost of Care (2011–12).

Compare your local hospital with other similar hospitals. Look for this icon  to view comparative results across hospitals.



All of the National Health Performance Authority's reports and data are available to download free of charge from the website.

Introduction

About this report

This report provides insights into the relative efficiency of public hospitals by allowing fair comparisons of the costs they incur in caring for their patients. A hospital is considered more efficient if it is able to deliver more services while consuming fewer resources. In this light, measuring hospital costs for a given service helps to show how efficient hospitals are relative to each other.

In 2011–12, the entire health sector was estimated to have cost federal, state and territory governments, private health insurers and individuals \$140.2 billion.¹ Public hospitals represented the largest portion of this, accounting for \$42.0 billion (excluding property, plant and equipment costs), including \$26.1 billion for acute and emergency department (ED) services.^{1,2}

Effective approaches to help assess the efficiency of different hospitals are therefore important, because the size of the hospital sector means efforts to improve efficiency, if well targeted, have a large potential to yield significant benefits towards ensuring money is spent more effectively.

This report has national significance because it is the first time this information about the costs of delivering services to acute admitted patients has been made publicly available. The report discusses results for 86 of Australia's largest hospitals, and also provides a summary in tabular form (**Appendix 1, page 32**). Results for a further 11 hospitals are available on the MyHospitals website. These hospitals have not been included in the report because their results are not fully comparable. A list of these hospitals can be found in **Appendix 2, page 34**.

The National Health Performance Authority (the Authority) bases its performance reports on indicators agreed by the Council of Australian Governments (COAG). This report provides insights into the following indicators:

- Cost per weighted separation and total case weighted separations
- Relative Stay Index for multi-day stay patients.

As public hospitals provide a range of services to a variety of patients, the report focuses on patients that consume the largest portion of costs, namely those who are admitted for acute care. To ensure results are comparable between hospitals, the report accounts for known legitimate increases in costs. These include costs associated with the complexity of the patient's condition or procedure, and individual patient characteristics, such as the additional costs of treating patients who live in remote areas.

The report excludes costs that are accounted for in different ways across states and territories, such as costs of consumables (for example, blood) and other costs of property, plant and equipment. This approach enhances confidence in the reliability of the results.

The Authority's approach of concentrating on a comparable subset of total costs means that, across 82 hospitals with results for Comparable Cost of Care, the total value of the costs being examined in this report amounts to \$16.0 billion of the \$26.1 billion spent nationally on acute admitted and ED patients in public hospitals in 2011–12.

This report provides information about the relative efficiency of public hospitals, using two separate measures:

- **Cost per National Weighted Activity Unit (NWAU)** is a measure of the average cost of a unit of activity provided to acute admitted patients in a public hospital
- **Comparable Cost of Care** is a measure that focuses on the comparable costs of acute admitted patients and includes the costs of emergency department patients who are subsequently admitted to allow for an assessment of the relative efficiency of public hospitals.

The Authority uses two headline measures in the report, Cost per NWAU and Comparable Cost of Care, to provide additional confidence in the reliability of the results.

By including both measures, which use different methods of calculation, the Authority has demonstrated that results for individual hospitals are broadly the same regardless of which measure is used. In other words, hospitals that appear either more efficient or less efficient using one measure have very similar results using the other measure. The fact that results for hospitals are similar using both measures creates additional confidence in the reliability of the report's findings and of the relativities in hospital efficiency ([Appendix 3, page 35](#)).

Additionally, the report includes information for 16 conditions and procedures using the following two measures:

- **Cost per admission** is a measure that shows how much money different hospitals spend to treat patients admitted for any of the 16 conditions or procedures

- **Length of stay** is a relevant contextual measure using data for 2011–12 which shows the average number of days a patient stayed in hospital.

For the part of the report focusing on the average cost for specific types of admissions, the 16 conditions or procedures were selected by clinicians and hospital managers to represent major areas of medical and surgical care for **major metropolitan** and **major regional** public hospitals. This information has been provided to allow health care professionals to better understand how their day-to-day activities may contribute to their hospital's overall result.

As length of stay in hospital is a driver of the cost of treating many patients, this report includes information on the length of these stays for the 16 conditions or procedures, and the costs involved. This information is provided to give health care professionals transparent information about factors they can influence in a more immediate way.

It is important to note that cost figures for the 16 conditions and procedures are not adjusted to take account of differences in the complexity of the condition or patient characteristics that can lead to legitimate increases in costs. They also do not reflect 100% of the actual costs for each condition or procedure. The quoted costs are instead a subset of total costs that are considered comparable ([see 'More about the contextual measures', page 6](#)).

Importantly, while the report compares the relative efficiency of hospitals by using their average cost of a unit of activity, it has not been possible to consider the quality of care provided or the health outcomes experienced by patients. As a result, it is not possible to conclude whether a hospital with lower or higher efficiency results provides better or worse health outcomes than other hospitals, and therefore the Authority makes no determination in this report that any particular hospital is performing well or poorly.

Why is comparing the costs of hospital services important?

The efficiency of Australia's health system would increase if steps were taken to reduce hospital costs while retaining or improving quality of care and patient outcomes.

Every day, clinicians make decisions that influence, for example, the number and types of tests, treatments, devices, procedures and the number of days a patient stays in hospital.

Accordingly, this report aims to equip health care professionals with comparable performance information to support their work to deliver patient care without placing undue resource demands on the health care system.

About the data

Data used in this report are calculated from the National Hospital Cost Data Collection (NHCDC) and the Admitted Patient Care National Minimum Data Set.

The NHCDC is recognised internationally as an important and unique resource, used by the Independent Hospital Pricing Authority (IHPA) to establish prices for public hospital services which are eligible for funding under the National Health Reform Agreement (NHRA). The national consistency and completeness of the NHCDC has undergone assurances and review by external auditors.^{3,4,5}

The data submitted to the NHCDC is owned by state and territory governments. Some governments release more recent data on their websites comparing the efficiency of their public hospitals. However, measures designed for comparison of public hospitals within a state or territory are not necessarily comparable to other jurisdictions. The measures used in this report support the national fair comparison of the relative efficiency of Australia's largest public hospitals.

This report is based on 2011–12 data because of the length of time required for this information to be collected nationally, and to carry out the work required to make this information comparable between states and territories. With the report's methods now established, it is anticipated that future reports will be able to use more timely data, which will also show if relativities between hospitals have shifted since 2011–12.

More about the main measures

NWAU

Cost per NWAU

The National Weighted Activity Unit (NWAU) was developed by the Independent Hospital Pricing Authority (IHPA) to set the pricing of public hospital services. The NWAU allows different hospital activities to be expressed in terms of a common unit of activity.

An 'average' public hospital service is worth one NWAU. More intensive and expensive activities are worth multiple NWAUs, and simpler and less expensive activities are worth fractions of an NWAU. For example, a typical case of cellulitis is assigned a weighted unit of activity of 0.8 since this condition requires fewer hospital resources than a typical hip replacement, which is assigned a weighted unit of activity of 4.2.

The NWAU accounts for the differences in the complexity of patients' conditions or procedures and individual patient characteristics.

Cost per NWAU for acute admitted patients is a measure of the average cost of one NWAU for patients who are admitted to a hospital from the emergency department, pre-admission clinic or specialist clinic. Therefore, it **does not include** any emergency department costs associated with these patients.

The measure focuses on the hospital costs of patients whose treatment is eligible for Commonwealth funding under the National Health Reform Agreement. It excludes costs relating to hospital services funded by other Commonwealth programmes, for example highly specialised drugs for chemotherapy, or services for patients funded by the Department of Veterans' Affairs, motor vehicle accident insurance, workers' compensation or public liability damage claims.

CCC

Comparable Cost of Care

Comparable Cost of Care is a term coined by the Authority to denote a method of measuring the average cost of a unit of activity for acute admitted patients. It uses comparable costs to allow an assessment of the relative efficiency of hospitals. But unlike Cost per NWAU, Comparable Cost of Care **includes** costs associated with the care provided in the emergency department (ED) prior to admission, as the Authority has previously found large variation between hospitals in the length of time patients stayed in ED.⁶

Additionally, Comparable Cost of Care includes patients whose treatment is not funded under the National Health Reform Agreement by Activity Based Funding, such as patients covered by the Department of Veterans' Affairs or motor vehicle accident and workers' compensation schemes.

As with Cost per NWAU, the measure includes comparable costs that are recorded consistently across the nation's public hospitals, calculated with reference to a standardised unit of activity. It excludes costs related to property, plant and equipment and where accounting practices differ between states and territories.

The unit of activity is weighted to account for the differences in the complexity of patients' conditions or procedures and particular individual patient characteristics that are known to increase costs unavoidably, for example patients who live in remote areas.

Table 1: Differences between the measures of Cost per NWAU and Comparable Cost of Care

<div style="background-color: #0056b3; color: white; padding: 5px; border-radius: 10px; display: inline-block; font-weight: bold;">NWAU</div> <p>Cost per NWAU Cost per National Weighted Activity Unit (NWAU) is a measure of the average cost of a unit of activity provided to acute admitted patients in a public hospital.</p>	<div style="background-color: #c4a032; color: white; padding: 5px; border-radius: 10px; display: inline-block; font-weight: bold;">CCC</div> <p>Comparable Cost of Care Comparable Cost of Care is a measure that focuses on the comparable costs of acute admitted patients and includes the costs of emergency department patients who are subsequently admitted to allow for an assessment of the relative efficiency of public hospitals.</p>
------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

	Cost per NWAU	Comparable Cost of Care
Comparable costs		
Allied health; Imaging; Pharmacy; Pathology	✓	✓
Critical care	✓	✓
Hotel goods and services*	✓	✓
Non-clinical and on-costs	✓	✓
Operating room	✓	✓
Prostheses	✓	✓
Specialised procedure suite	✓	✓
Ward medical, nursing and supplies	✓	✓
ED costs	✗	✓
Blood costs	✗	✗
Teaching, training & research (direct)	✗	✗
Depreciation	✗	✗
Excluded costs*	✗	✗
Payroll tax	✗	✗
Medications subsidised by Commonwealth programmes (e.g. PBS)	✗	✗
Property, plant and equipment	✗	✗
Patients included		
Public patients	✓	✓
Private patients†	✓	✓
Admitted in 2011–12 and discharged in 2011–12	✓	✓
Compensable patients	✗	✓
Department of Veterans' Affairs	✗	✓
Adjustments for legitimate cost variations		
Specialist paediatric; Specialist psychiatric age; Indigenous; Remoteness area; Intensive care unit; Radiotherapy	✓	✓

* As defined by the Australian Hospital Patient Costing Standards (AHPCS), version 2.0.

† NWAUs are discounted to account for private patient revenues.

More about the contextual measures

CA

Cost per admission

Cost per admission is a measure developed by the Authority that uses the same subset of costs as in Comparable Cost of Care. However, unlike Comparable Cost of Care, it does not adjust for the complexity of patients or known legitimate cost drivers.

This measure has been used to analyse the variation in costs for 16 selected conditions and procedures across Australia's major public hospitals included in this report.

Because the cost figures applied to the 16 conditions and procedures use a subset of total costs, as noted above, it is important to recognise this means the cost figures quoted on pages 16 to 31 do not represent the full costs of treating these patients. A list showing which costs have been excluded can be seen in **Table 1, page 5** (in the column 'Comparable Cost of Care'). While the costs are not complete, this methodology ensures the costs quoted are fully comparable across hospitals.

LOS

Length of stay

Length of stay is a measure of the average duration in hospital for patients admitted for a particular condition or procedure, counted in days.

The Council of Australian Governments (COAG) has recognised length of stay as a measure of hospital efficiency, by including it as one of the indicators in the Performance and Accountability Framework, the document endorsed by all Australian governments that guides the Authority's work.

In 2013, the Authority reported large differences across Australia's public hospitals in the average length of stay for similar patients, even among hospitals of similar size and geographic location.⁷

Accordingly, this report includes previously published information on length of stay in 2011–12 among patients who stayed at least one night in hospital for one of 16 conditions and procedures. This information has been provided to make explicit the link between incremental increases in costs for each additional day spent in hospital. It also ensures the length of stay data reflects the same data period as used for the cost data in this report.

Length of stay data for the 2012–13 year is now available at www.myhospitals.gov.au

Fair comparisons

The Authority has used five approaches to support national comparability of the relative efficiency of public hospitals:

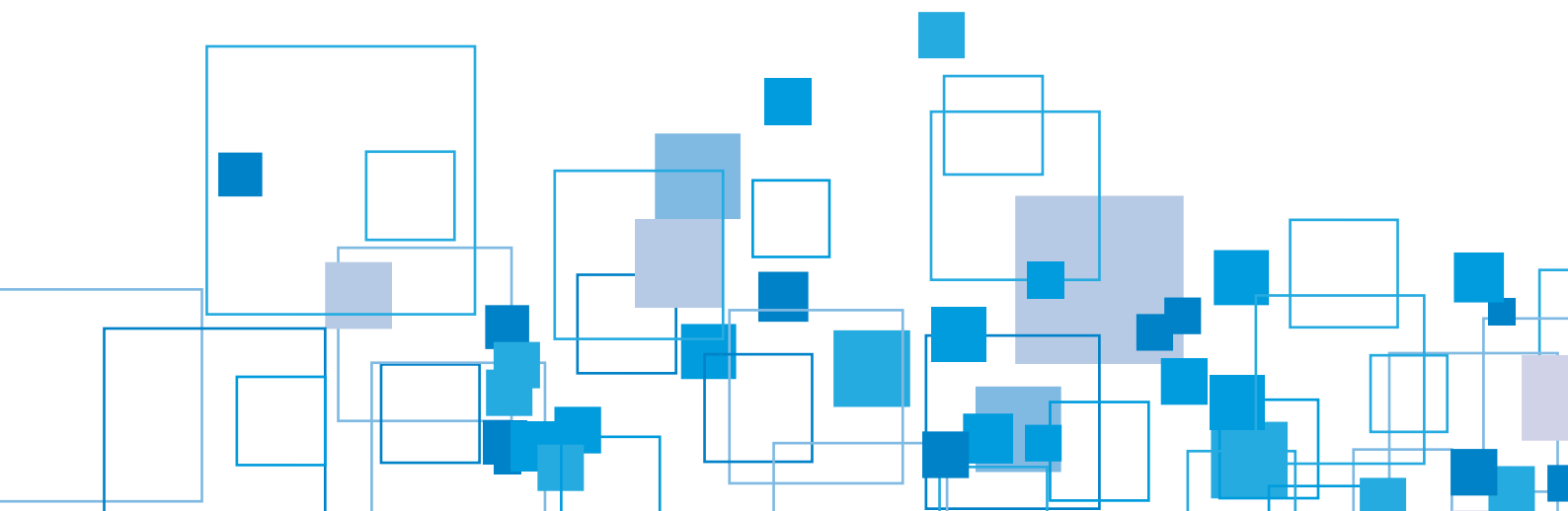
- Designing the Comparable Cost of Care measure to include costs that are similarly accounted for across hospitals
- Standardisation of Cost per NWAU and Comparable Cost of Care to account for differences between hospitals in the types of services provided and complexity of patients admitted
- Rounding of costs to acknowledge any remaining uncertainty in the precision of estimates
- Suppression of results for hospitals in cases where cost data are not fully available or comparable
- Peer grouping of hospitals to allow for fairer comparisons to similar facilities using nationally agreed peer groups.

The methodology used by the Authority also adjusted for patients with characteristics that increased costs within hospitals to which they were admitted (for example, patients from rural areas). The result of that work is that the peer group averages are very similar across peered hospitals for both Cost per NWAU and Comparable Cost of Care.

This report presents comparison figures for the three largest hospital peer groups:

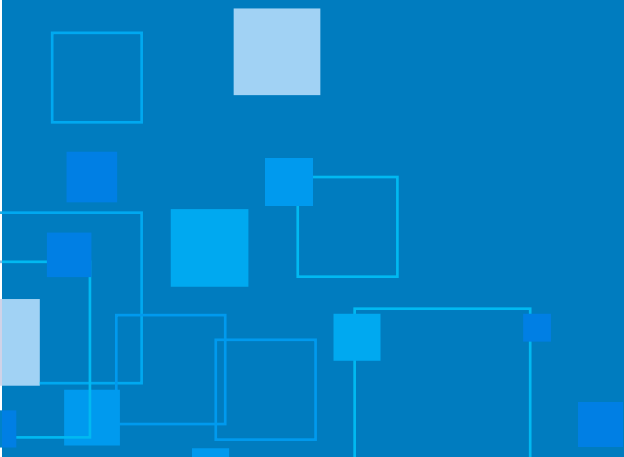
- Major metropolitan
- Large metropolitan
- Major regional.

For more detail on the methodology used in this report, see *Hospital Performance: Costs of acute admitted patients in public hospitals in 2011–12, Technical Supplement* at www.myhospitals.gov.au



Key findings

Cost per NWAU and Comparable Cost of Care



Key findings: Cost per NWAU and Comparable Cost of Care

Some hospitals were found to have twice the average cost per unit of activity in 2011–12 compared to others in the same peer group, after adjusting for the different types of services provided, complexity of admitted patients and patient characteristics that lead to legitimate increases in cost. The results were broadly the same using either of the two main measures, Cost per NWAU or Comparable Cost of Care.

NWAU **Cost per NWAU**
 Considerable variation was found across **major** and **large metropolitan** and **major regional** hospitals nationally in terms of the Cost per NWAU, ranging from \$3,100 to \$6,400. Within the individual hospital peer groups, where comparisons are fairer and more meaningful, the ranges are shown below.

Across **major metropolitan** hospitals, the average Cost per NWAU was \$4,400. The averages at individual hospitals within this peer group ranged from \$3,100 at one hospital to \$5,800 at another (**87% higher**).

Top 10% of hospitals in this peer group:	
\$5,800	The Canberra Hospital (ACT)
\$5,500	Sir Charles Gairdner Hospital (WA)
\$5,300	Calvary Public Hospital (ACT)
\$5,300	Logan Hospital (Qld)

Bottom 10% of hospitals in this peer group:	
\$3,400	Dandenong Hospital (Vic)
\$3,400	Royal Melbourne Hospital [Parkville] (Vic)
\$3,400	Sunshine Hospital (Vic)
\$3,400	The Northern Hospital [Epping] (Vic)
\$3,100	Maroondah Hospital [East Ringwood] (Vic)

Across **large metropolitan** hospitals, the average Cost per NWAU was \$4,300. The averages at individual hospitals within this peer group ranged from \$3,200 at one hospital to \$6,400 at another (**96% higher**).

Top 10% of hospitals in this peer group:	
\$6,400	Rockingham General Hospital (WA)

Bottom 10% of hospitals in this peer group:	
\$3,200	Sandringham Hospital (Vic)

Across **major regional** hospitals, the average Cost per NWAU was \$4,400. The averages at individual hospitals within this peer group ranged from \$3,600 at one hospital to \$5,300 at another (**46% higher**).

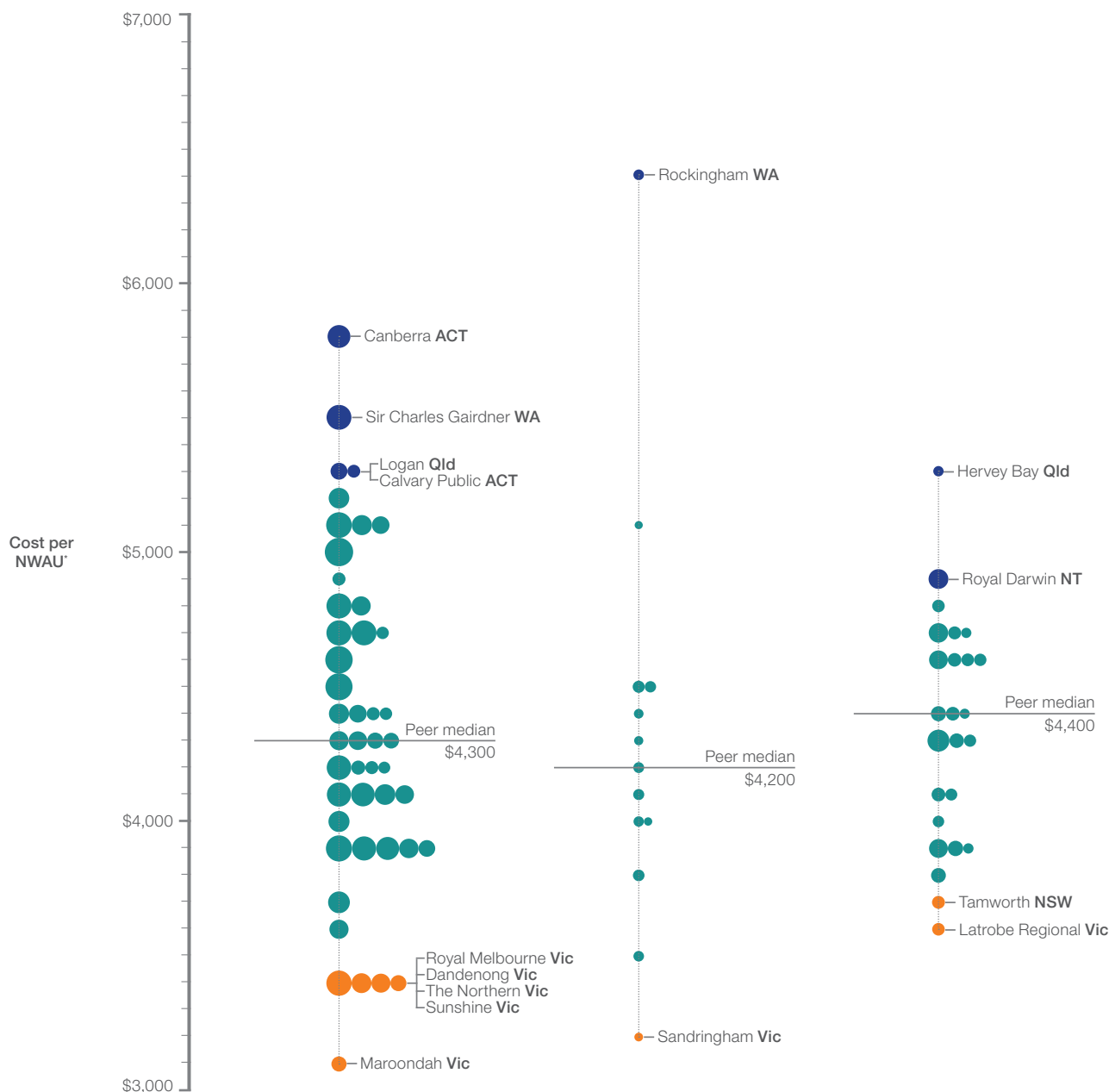
Top 10% of hospitals in this peer group:	
\$5,300	Hervey Bay Hospital (Qld)
\$4,900	Royal Darwin Hospital (NT)

Bottom 10% of hospitals in this peer group:	
\$3,700	Tamworth Hospital (NSW)
\$3,600	Latrobe Regional Hospital [Traralgon] (Vic)

Figure 2, page 11 summarises the Cost per NWAU in 84 **major** and **large metropolitan** and **major regional** hospitals. Results for all these hospitals can be found in **Appendix 1, page 32**.

Figure 2: Cost per NWAU* for acute admitted patients in public hospitals, 2011–12

	Major metropolitan	Large metropolitan	Major regional
Total peer group costs†	\$9,879,651,800	\$698,317,500	\$2,673,544,400
Total peer group NWAU‡	2,253,383	161,626	614,003
Peer average Cost per NWAU	\$4,400	\$4,300	\$4,400



Each circle represents a hospital and the size represents the NWAU for each hospital.

6,000 100,000

- In highest 10% of peer group hospitals nationally
- Other hospitals (see results on pages 32–33)
- In lowest 10% of peer group hospitals nationally

* Cost per National Weighted Activity Unit (NWAU) is a measure used by most governments to manage their largest public hospitals, focusing on acute admitted patients (excluding emergency department and property, plant and equipment costs). It includes the costs, types of patients and activity as defined by the National Efficient Price Determination 2014–15.

† Includes the costs as defined by the National Efficient Price Determination 2014–15.

‡ A measure of a common unit of activity calculated using the National Efficient Price Determination 2014–15.

Sources: National Health Performance Authority analysis of results calculated using the National Hospital Cost Data Collection 2011–12 and Admitted Patient Care National Minimum Dataset 2011–12.

ccc

Comparable Cost of Care

There was also considerable variation across **major** and **large metropolitan** and **major regional** hospitals nationally in terms of the Comparable Cost of Care, which also includes the costs of care provided in ED prior to admission. Results ranged from \$3,700 to \$6,800 in 2011–12 (**Figure 3, page 13**). Within the individual hospital peer groups, where comparisons are fairer and more meaningful, the ranges are shown below.

Across **major metropolitan** hospitals, the average Comparable Cost of Care was \$4,900. The averages at individual hospitals within this peer group ranged from \$3,700 at one hospital to \$6,500 at another (**76% higher**).

Top 10% of hospitals in this peer group:

\$6,500	The Canberra Hospital (ACT)
\$6,300	Calvary Public Hospital (ACT)
\$5,900	Sir Charles Gairdner Hospital (WA)
\$5,700	Logan Hospital (Qld)
\$5,700	The Prince Charles Hospital (Qld)

Bottom 10% of hospitals in this peer group:

\$3,900	Royal Melbourne Hospital [Parkville] (Vic)
\$3,900	Sunshine Hospital (Vic)
\$3,900	The Northern Hospital [Epping] (Vic)
\$3,900	Western Hospital [Footscray] (Vic)
\$3,800	Dandenong Hospital (Vic)
\$3,700	Maroondah Hospital [East Ringwood] (Vic)

Across **large metropolitan** hospitals, the average Comparable Cost of Care was \$5,000. The averages at individual hospitals within this peer group ranged from \$4,000 at one hospital to \$6,800 at another (**71% times higher**).

Top 10% of hospitals in this peer group:

\$6,800	Rockingham General Hospital (WA)
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Bottom 10% of hospitals in this peer group:

\$4,000	Sandringham Hospital (Vic)
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Across **major regional** hospitals, the average Comparable Cost of Care was \$4,900. The averages at individual hospitals within this peer group ranged from \$4,200 at one hospital to \$5,800 at another (**36% higher**).

Top 10% of hospitals in this peer group:

\$5,800	Hervey Bay Hospital (Qld)
\$5,500	Royal Darwin Hospital (NT)

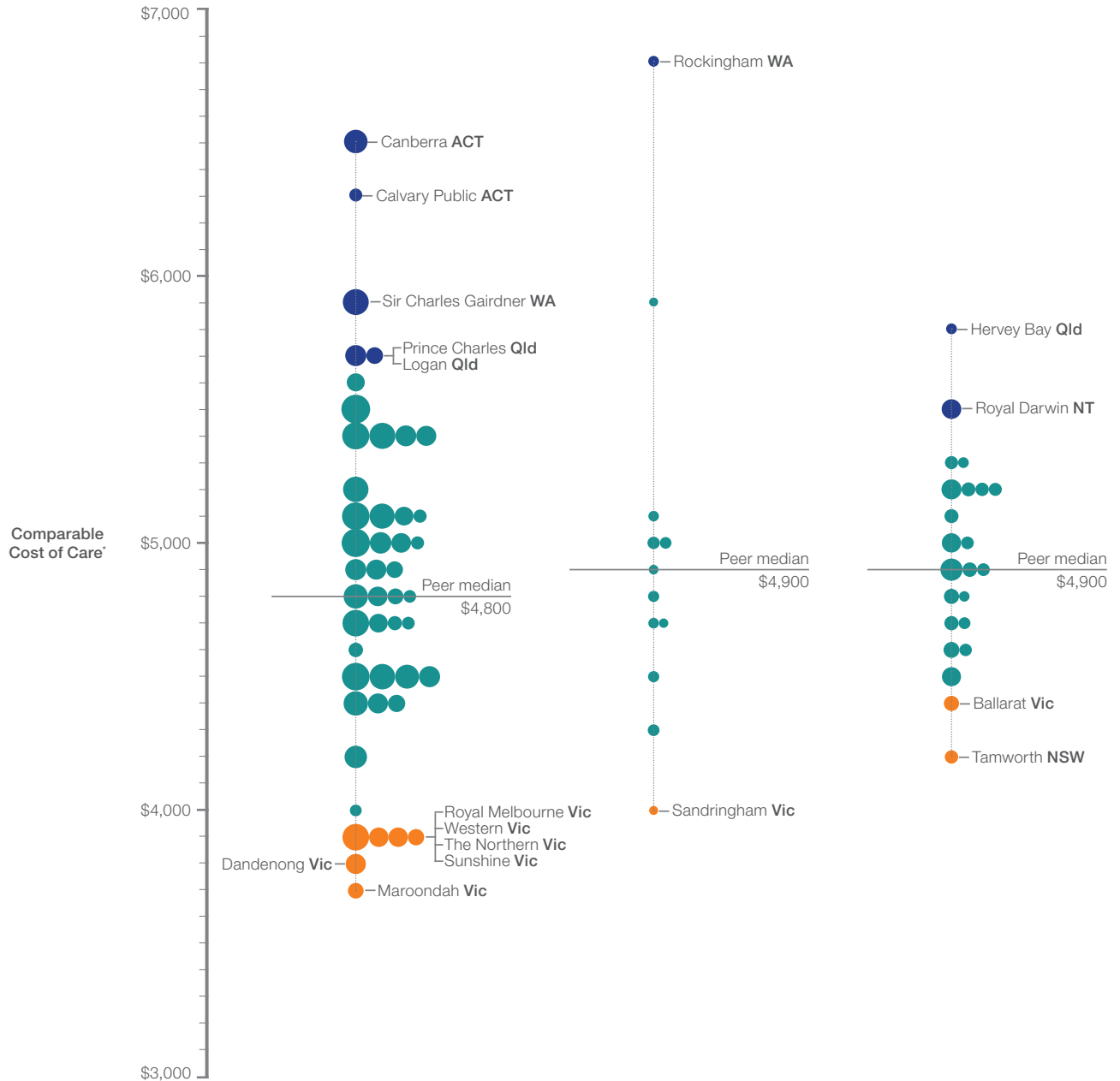
Bottom 10% of hospitals in this peer group:

\$4,400	Ballarat Health Services [Base Campus] (Vic)
\$4,200	Tamworth Hospital (NSW)

Figure 3, page 13 summarises the Comparable Cost of Care in 82 **major** and **large metropolitan** and **major regional** hospitals. Results for all these hospitals can be found in **Appendix 1, page 32**.

Figure 3: Comparable Cost of Care* for acute admitted patients in public hospitals, 2011–12

	Major metropolitan	Large metropolitan	Major regional
Total peer group costs†	\$12,131,660,200	\$805,871,900	\$3,061,599,700
Total peer group units of activity‡	2,477,736	162,098	618,781
Peer average Comparable Cost of Care	\$4,900	\$5,000	\$4,900



Each circle represents a hospital and the size represents the units of activity for each hospital.

6,000 100,000

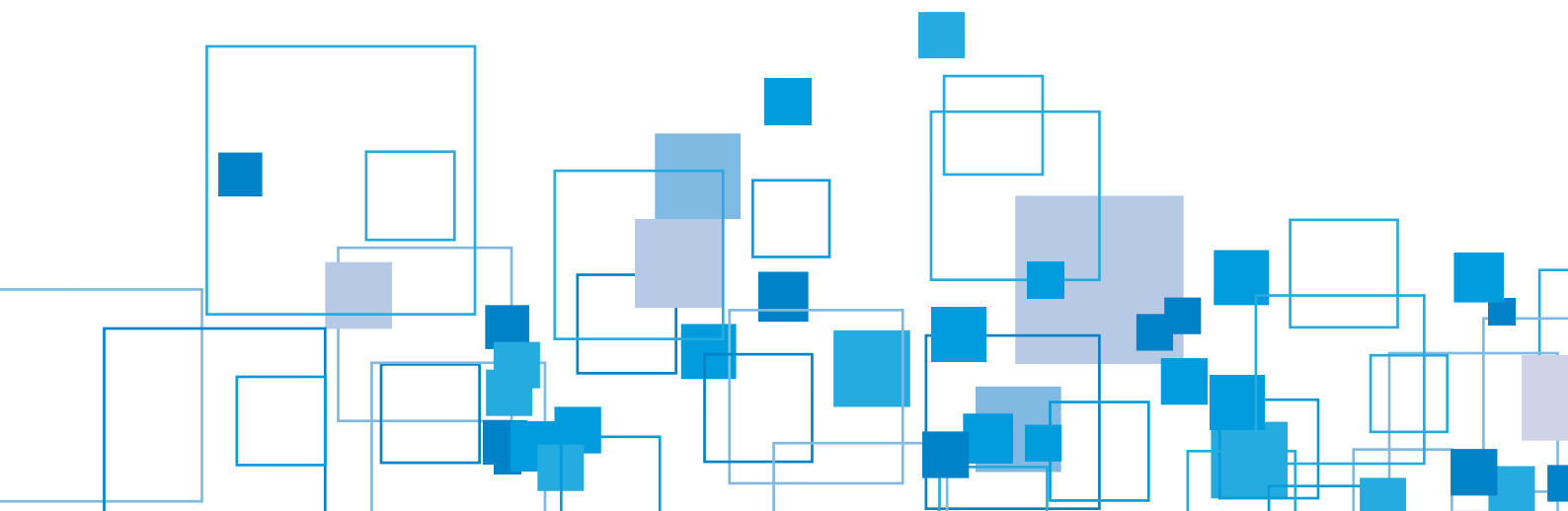
- In highest 10% of peer group hospitals nationally
- Other hospitals (see results on pages 32–33)
- In lowest 10% of peer group hospitals nationally

* Comparable Cost of Care measures the relative efficiency of acute admitted patients, including the care provided in the Emergency Department prior to admission. It excludes property, plant and equipment costs. It includes the cost, types of patients and activity as defined by the *Hospital Performance: Costs of acute admitted patients in public hospitals in 2011–12, Technical Supplement*.

† Includes the costs as defined by *Hospital Performance: Costs of acute admitted patients in public hospitals in 2011–12, Technical Supplement*.

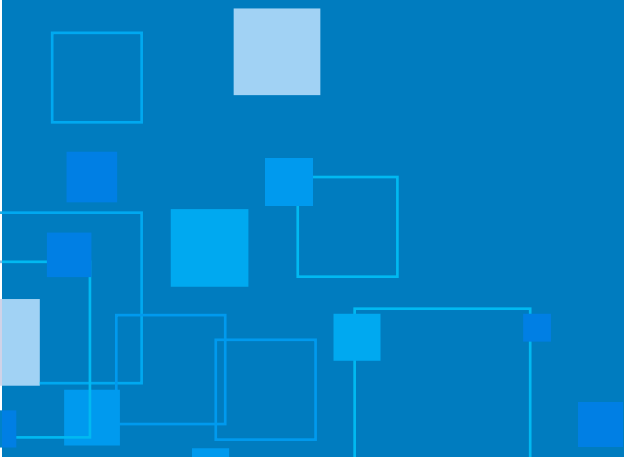
‡ A measure of a common unit of activity calculated as detailed in the *Hospital Performance: Costs of acute admitted patients in public hospitals in 2011–12, Technical Supplement*.

Sources: National Health Performance Authority analysis of results calculated using the National Hospital Cost Data Collection 2011–12 and Admitted Patient Care National Minimum Dataset 2011–12.



Key findings

Average cost per admission for 16 conditions and procedures



Appendix removal

Without complications or comorbidities

Appendix removal (also called appendectomy) is a surgical procedure which is performed either through keyhole surgery or open surgery. The data presented here relate to costs incurred by a hospital for patients who were admitted for the removal of the appendix without complications or comorbidities, malignant cancer or peritonitis.

In 2011–12, there were 13,099 admissions for appendix removal without complications or comorbidities, malignant cancer or peritonitis in **major metropolitan** and **major regional** public hospitals.

CA

Across all **major metropolitan** hospitals, the average cost per admission for appendix removal was \$6,300. The average cost per admission ranged from \$4,600 at one hospital to \$10,100 at another hospital.

Across all **major regional** hospitals, the average cost per admission for appendix removal was \$6,300. The average cost per admission ranged from \$4,300 at one hospital to \$9,300 at another hospital.

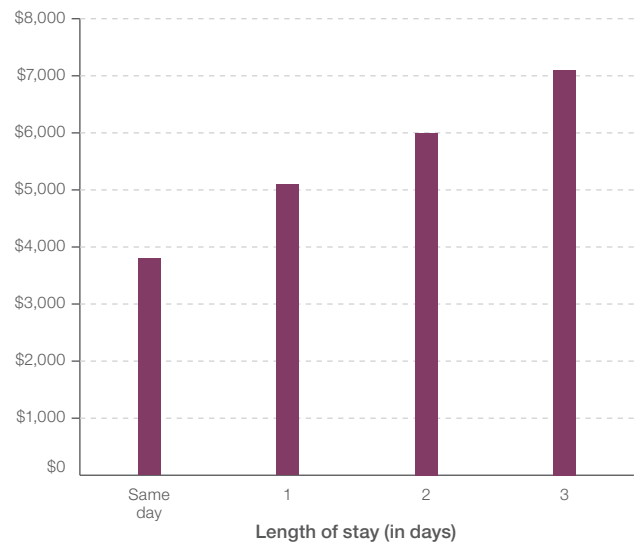
LOS

A previous Authority report showed the average length of stay for appendix removal in 2011–12 was 2.2 days.⁷ At **major metropolitan** hospitals, the average length of stay ranged from 1.6 to 3.0 days, and at **major regional** hospitals the average length of stay ranged from 1.6 to 2.8 days.⁷

By comparing the cost of a patient's appendix removal to their length of stay it is possible to assess the incremental cost that each additional day(s) spent in hospital contributes to the patient's costs of care (**Figure 4**).

It is important to note that these costs do not reflect the total costs of this procedure. The report considers only the subset of total costs that are fully comparable between hospitals. For example, it excludes property, plant and equipment costs.

Figure 4: Average cost for appendix removal without complications or comorbidities in major public hospitals, by length of stay, 2011–12



Sources: National Health Performance Authority analysis of results calculated using the National Hospital Cost Data Collection 2011–12 and Admitted Patient Care National Minimum Dataset 2011–12.

Cellulitis

Without complications or comorbidities

Cellulitis is a bacterial infection of the skin and underlying tissue which is usually treated with antibiotics. The data presented here relate to costs incurred by a hospital for patients who were admitted for cellulitis without complications or comorbidities.

In 2011–12, there were 23,432 admissions for cellulitis without complications or comorbidities in **major metropolitan** and **major regional** public hospitals.

CA

Across all **major metropolitan** hospitals, the average cost per admission for cellulitis was \$3,800. The average cost per admission ranged from \$1,900 at one hospital to \$7,400 at another hospital.

Across all **major regional** hospitals, the average cost per admission for cellulitis was \$4,000. The average cost per admission ranged from \$2,700 at one hospital to \$5,500 at another hospital.

LOS

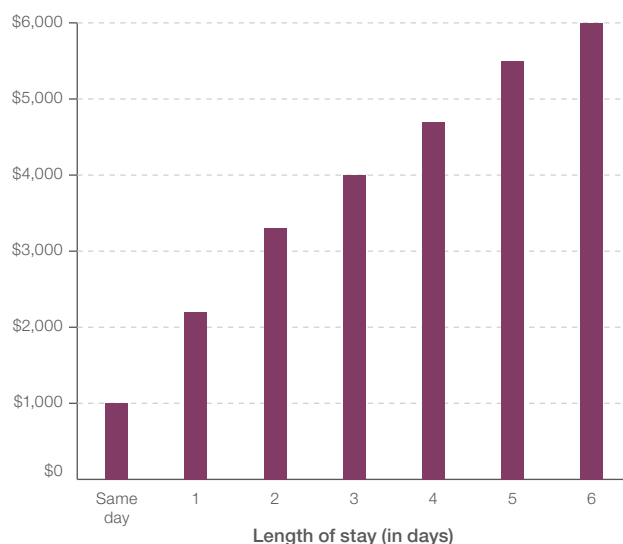
A previous Authority report showed the average length of stay for cellulitis in 2011–12 was 3.8 days.⁷ At **major metropolitan** hospitals, the average length of stay ranged from 2.1 to 5.5 days, and at **major regional** hospitals the average length of stay ranged from 2.5 to 6.4 days.⁷

By comparing the cost of a patient's admission for cellulitis to their length of stay it is possible to assess the incremental cost that each additional day(s) spent in hospital contributes to the patient's costs of care (**Figure 5**).

It is important to note that these costs do not reflect the total costs of treating this condition. The report considers only the subset of total costs that are fully comparable between hospitals. For example, it excludes property, plant and equipment costs.

Over half of the admissions for cellulitis are considered potentially preventable hospitalisations.⁸

Figure 5: Average cost for cellulitis without complications or comorbidities in major public hospitals, by length of stay, 2011–12



Sources: National Health Performance Authority analysis of results calculated using the National Hospital Cost Data Collection 2011–12 and Admitted Patient Care National Minimum Dataset 2011–12.

Chronic obstructive pulmonary disease

Without complications or comorbidities

Chronic obstructive pulmonary disease (COPD) is a progressive lung disease characterised by narrowing of the airways and reduced lung volume. This condition is commonly caused by smoking or other lung irritants, and includes diagnoses such as emphysema and chronic bronchitis. The data presented here relate to costs incurred by a hospital for patients who were admitted for COPD without complications or comorbidities.

In 2011–12, there were 20,764 admissions for COPD without complications or comorbidities in **major metropolitan** and **major regional** public hospitals.

CA

Across all **major metropolitan** hospitals, the average cost per admission for COPD without complications was \$5,500. The average cost per admission ranged from \$3,300 at one hospital to \$10,500 at another hospital.

Across all **major regional** hospitals, the average cost per admission for COPD without complications was \$5,800. The average cost per admission ranged from \$3,600 at one hospital to \$7,800 at another hospital.

LOS

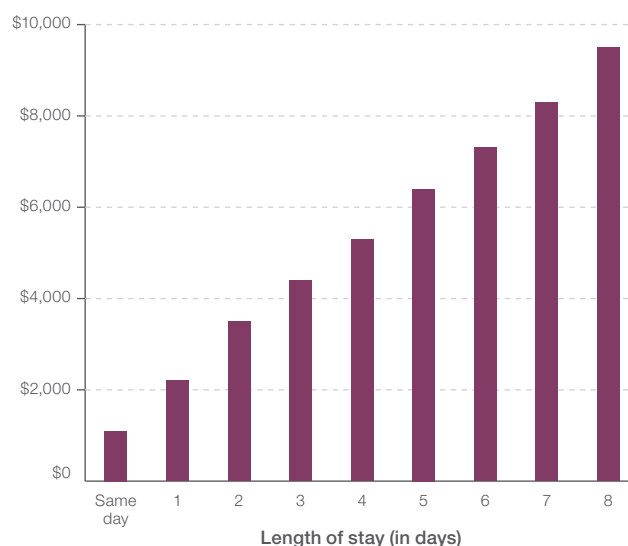
A previous Authority report showed the average length of stay for COPD without complications in 2011–12 was 5.0 days.⁷ At **major metropolitan** hospitals, the average length of stay for COPD without complications ranged from 3.5 to 6.3 days, and at **major regional** hospitals the average length of stay ranged from 3.4 to 6.5 days.⁷

By comparing the cost of a patient's admission for COPD without complications to their length of stay it is possible to assess the incremental cost that each additional day(s) spent in hospital contributes to the patient's costs of care (**Figure 6**).

It is important to note that these costs do not reflect the total costs of treating this condition. The report considers only the subset of total costs that are fully comparable between hospitals. For example, it excludes property, plant and equipment costs.

Admissions for COPD without complications are considered potentially preventable hospitalisations.⁸

Figure 6: Average cost for COPD without complications or comorbidities in major public hospitals, by length of stay, 2011–12



Sources: National Health Performance Authority analysis of results calculated using the National Hospital Cost Data Collection 2011–12 and Admitted Patient Care National Minimum Dataset 2011–12.

Chronic obstructive pulmonary disease

With complications or comorbidities

Chronic obstructive pulmonary disease (COPD) is a progressive lung disease characterised by narrowing of the airways and reduced lung volume. This condition is commonly caused by smoking or other lung irritants, and includes diagnoses such as emphysema and chronic bronchitis. The data presented here relate to costs incurred by a hospital for patients who were admitted for COPD with complications or comorbidities.

In 2011–12, there were 7,187 admissions for COPD with complications or comorbidities in **major metropolitan** and **major regional** public hospitals.

CA

Across all **major metropolitan** hospitals, the average cost per admission for COPD with complications was \$9,700. The average cost per admission ranged from \$5,900 at one hospital to \$15,700 at another hospital.

Across all **major regional** hospitals, the average cost per admission for COPD with complications was \$12,000. The average cost per admission ranged from \$7,800 at one hospital to \$17,800 at another hospital.

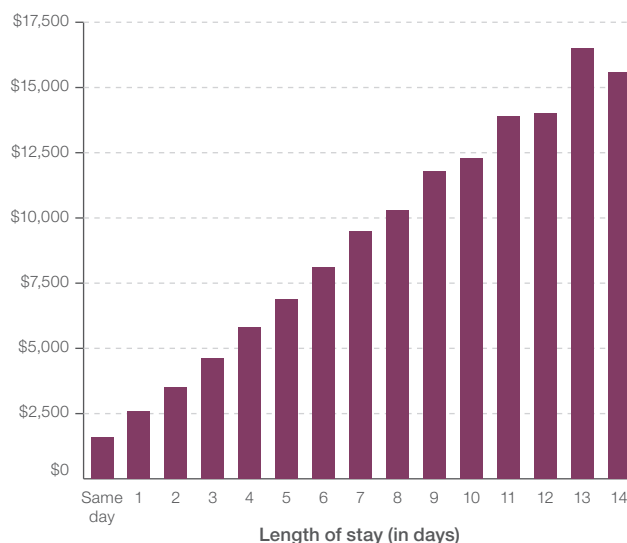
LOS

A previous Authority report showed the average length of stay for COPD with complications in 2011–12 was 8.5 days.⁷ At **major metropolitan** hospitals, the average length of stay for COPD with complications ranged from 5.5 to 11.7 days, and at **major regional** hospitals the average length of stay ranged from 5.9 to 12.2 days.⁷

By comparing the cost of a patient's admission for COPD with complications to their length of stay it is possible to assess the incremental cost that each additional day(s) spent in hospital contributes to the patient's costs of care (**Figure 7**).

It is important to note that these costs do not reflect the total costs of treating this condition. The report considers only the subset of total costs that are fully comparable between hospitals. For example, it excludes property, plant and equipment costs.

Figure 7: Average cost for COPD with complications or comorbidities in major public hospitals, by length of stay, 2011–12



Sources: National Health Performance Authority analysis of results calculated using the National Hospital Cost Data Collection 2011–12 and Admitted Patient Care National Minimum Dataset 2011–12.

Heart failure

Without complications or comorbidities

Heart failure is a chronic condition that occurs when the heart is unable to pump blood strongly enough around the body. It includes cardiac shock, which occurs when blood flow to vital organs is inadequate for normal function. The data presented here relate to costs incurred by a hospital for patients who were admitted for heart failure without complications or comorbidities.

In 2011–12, there were 13,726 admissions for heart failure without complications or comorbidities in **major metropolitan** and **major regional** public hospitals.

CA

Across all **major metropolitan** hospitals, the average cost per admission for heart failure without complications was \$5,600. The average cost per admission ranged from \$2,600 at one hospital to \$9,500 at another hospital.

Across all **major regional** hospitals, the average cost per admission for heart failure without complications was \$6,000. The average cost per admission ranged from \$4,400 at one hospital to \$8,000 at another hospital.

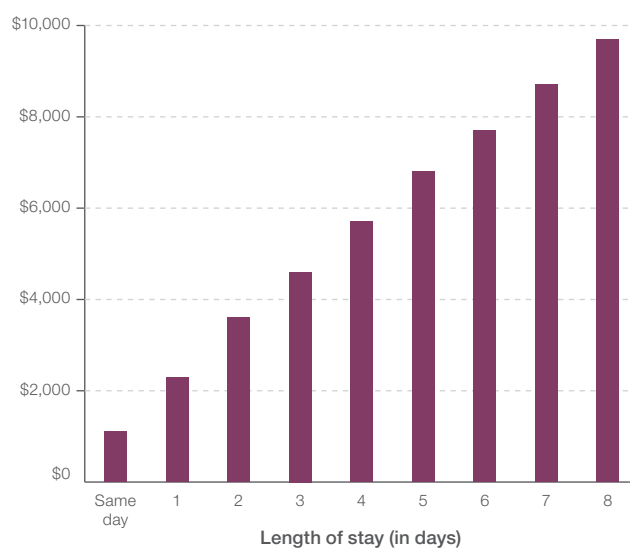
LOS

A previous Authority report showed the average length of stay for heart failure without complications in 2011–12 was 5.1 days.⁷ At **major metropolitan** hospitals, the average length of stay for heart failure without complications ranged from 3.2 to 6.7 days, and at **major regional** hospitals the average length of stay ranged from 3.4 to 6.0 days.⁷

By comparing the cost of a patient's admission for heart failure without complications to their length of stay it is possible to assess the incremental cost that each additional day(s) spent in hospital contributes to the patient's costs of care (**Figure 8**).

It is important to note that these costs do not reflect the total costs of treating this condition. The report considers only the subset of total costs that are fully comparable between hospitals. For example, it excludes property, plant and equipment costs.

Figure 8: Average cost for heart failure without complications or comorbidities in major public hospitals, by length of stay, 2011–12



Sources: National Health Performance Authority analysis of results calculated using the National Hospital Cost Data Collection 2011–12 and Admitted Patient Care National Minimum Dataset 2011–12.

Heart failure

With complications or comorbidities

Heart failure is a chronic condition that occurs when the heart is unable to pump blood strongly enough around the body. It includes cardiac shock, which occurs when blood flow to vital organs is inadequate for normal function. The data presented here relate to costs incurred by a hospital for patients who were admitted for heart failure with complications or comorbidities.

In 2011–12, there were 7,264 admissions for heart failure with complications or comorbidities in **major metropolitan** and **major regional** public hospitals.

CA

Across all **major metropolitan** hospitals, the average cost per admission for heart failure with complications was \$11,800. The average cost per admission ranged from \$7,500 at one hospital to \$24,800 at another hospital.

Across all **major regional** hospitals, the average cost per admission for heart failure with complications was \$12,900. The average cost per admission ranged from \$8,300 at one hospital to \$16,900 at another hospital.

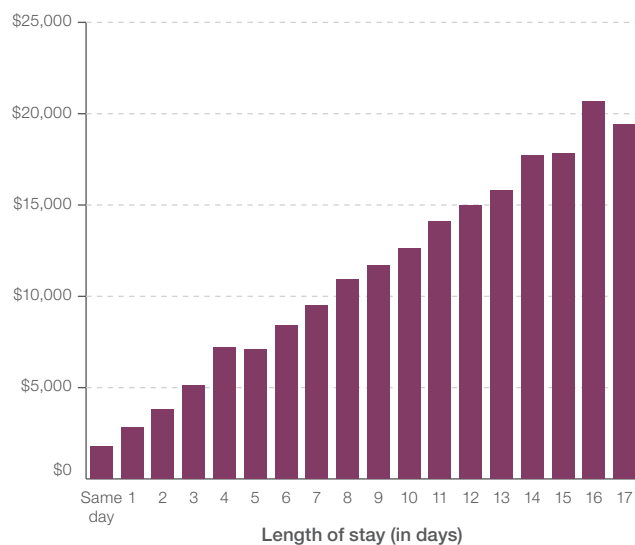
LOS

A previous Authority report showed the average length of stay for heart failure with complications in 2011–12 was 9.9 days.⁷ At **major metropolitan** hospitals, the average length of stay for heart failure with complications ranged from 7.2 to 13.9 days, and at **major regional** hospitals the average length of stay ranged from 7.2 to 15.0 days.⁷

By comparing the cost of a patient's admission for heart failure with complications to their length of stay it is possible to assess the incremental cost that each additional day(s) spent in hospital contributes to the patient's costs of care (**Figure 9**).

It is important to note that these costs do not reflect the total costs of treating this condition. The report considers only the subset of total costs that are fully comparable between hospitals. For example, it excludes property, plant and equipment costs.

Figure 9: Average cost for heart failure with complications or comorbidities in major public hospitals, by length of stay, 2011–12



Sources: National Health Performance Authority analysis of results calculated using the National Hospital Cost Data Collection 2011–12 and Admitted Patient Care National Minimum Dataset 2011–12.

Kidney and urinary tract infections

Without complications or comorbidities

Kidney and urinary tract infections occur frequently but can occasionally be severe enough to require treatment in hospital. The data presented here relate to costs incurred by a hospital for patients who were admitted for kidney or urinary tract infections without complications or comorbidities.

In 2011–12, there were 19,628 admissions for kidney and urinary tract infections without complications or comorbidities in **major metropolitan** and **major regional** public hospitals.

CA

Across all **major metropolitan** hospitals, the average cost per admission for kidney and urinary tract infections without complications was \$3,400. The average cost per admission ranged from \$1,900 at one hospital to \$5,600 at another hospital.

Across all **major regional** hospitals, the average cost per admission for kidney and urinary tract infections without complications was \$3,800. The average cost per admission ranged from \$2,500 at one hospital to \$6,000 at another hospital.

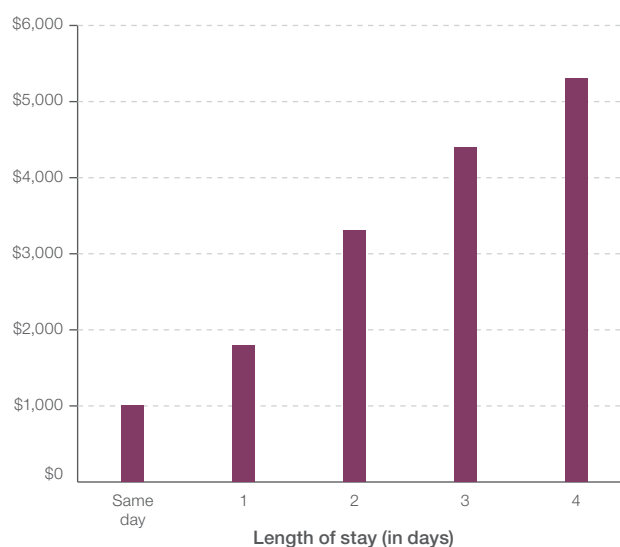
LOS

A previous Authority report showed the average length of stay for kidney and urinary tract infections without complications in 2011–12 was 3.2 days.⁷ At **major metropolitan** hospitals, the average length of stay for kidney and urinary tract infections without complications ranged from 2.0 to 4.4 days, and at **major regional** hospitals the average length of stay ranged from 2.2 to 4.5 days.⁷

By comparing the cost of a patient's admission for kidney and urinary tract infections without complications to their length of stay it is possible to assess the incremental cost that each additional day(s) spent in hospital contributes to the patient's costs of care (**Figure 10**).

It is important to note that these costs do not reflect the total costs of treating this condition. The report considers only the subset of total costs that are fully comparable between hospitals. For example, it excludes property, plant and equipment costs.

Figure 10: Average cost for kidney and urinary tract infections without complications or comorbidities in major public hospitals, by length of stay, 2011–12



Sources: National Health Performance Authority analysis of results calculated using the National Hospital Cost Data Collection 2011–12 and Admitted Patient Care National Minimum Dataset 2011–12.

Kidney and urinary tract infections

With complications or comorbidities

Kidney and urinary tract infections occur frequently but can occasionally be severe enough to require treatment in hospital. The data presented here relate to costs incurred by a hospital for patients who were admitted for kidney or urinary tract infections with complications or comorbidities.

In 2011–12, there were 8,821 admissions for kidney and urinary tract infections with complications or comorbidities in **major metropolitan** and **major regional** public hospitals.

CA

Across all **major metropolitan** hospitals, the average cost per admission for kidney and urinary tract infections with complications was \$9,000. The average cost per admission ranged from \$5,500 at one hospital to \$14,600 at another hospital.

Across all **major regional** hospitals, the average cost per admission for kidney and urinary tract infections with complications was \$10,000. The average cost per admission ranged from \$7,200 at one hospital to \$12,200 at another hospital.

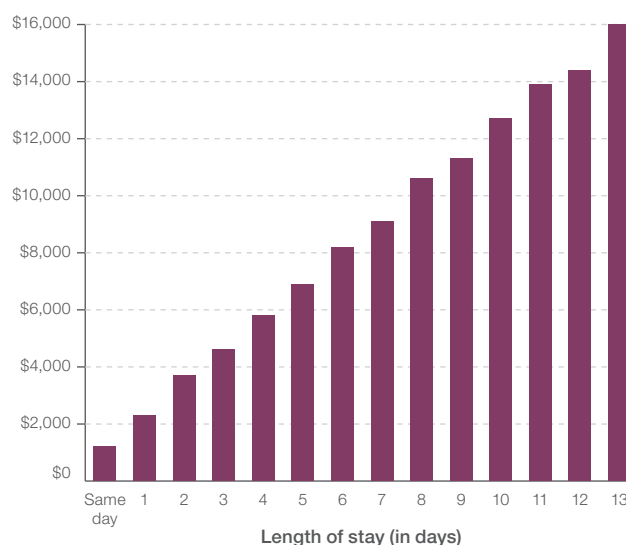
LOS

A previous Authority report showed the average length of stay for kidney and urinary tract infections with complications in 2011–12 was 7.5 days.⁷ At **major metropolitan** hospitals, the average length of stay for kidney and urinary tract infections with complications ranged from 5.2 to 9.5 days, and at **major regional** hospitals the average length of stay ranged from 5.5 to 10.1 days.⁷

By comparing the cost of a patient's admission for kidney and urinary tract infections with complications to their length of stay it is possible to assess the incremental cost that each additional day(s) spent in hospital contributes to the patient's costs of care (**Figure 11**).

It is important to note that these costs do not reflect the total costs of treating this condition. The report considers only the subset of total costs that are fully comparable between hospitals. For example, it excludes property, plant and equipment costs.

Figure 11: Average cost for kidney and urinary tract infections with complications or comorbidities in major public hospitals, by length of stay, 2011–12



Sources: National Health Performance Authority analysis of results calculated using the National Hospital Cost Data Collection 2011–12 and Admitted Patient Care National Minimum Dataset 2011–12.

Hip replacement

Without complications or comorbidities

Hip replacements, also known as hip arthroplasty, are most commonly performed to restore joint function following damage caused by arthritis. The data presented here relate to costs incurred by a hospital for patients who were admitted for a hip replacement without complications or comorbidities.

In 2011–12, there were 6,729 hip replacements without complications or comorbidities in **major metropolitan** and **major regional** public hospitals.

CA

Across all **major metropolitan** hospitals, the average cost of a hip replacement was \$19,400. The average cost of a hip replacement ranged from \$12,500 at one hospital to \$25,600 at another hospital.

Across all **major regional** hospitals, the average cost of a hip replacement was \$18,900. The average cost of a hip replacement ranged from \$12,000 at one hospital to \$25,300 at another hospital.

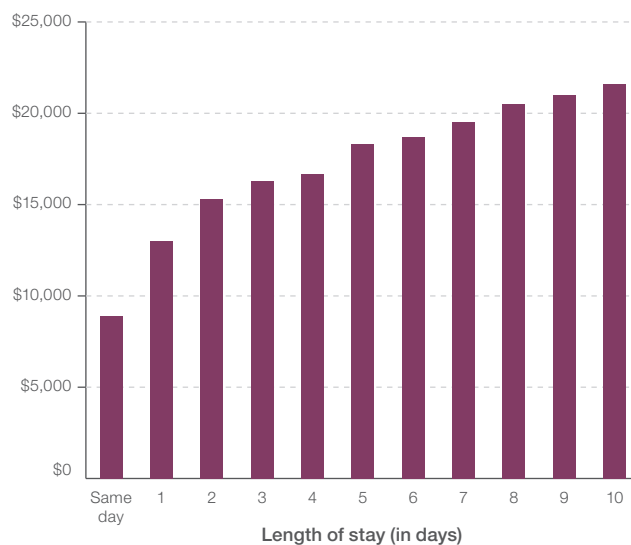
LOS

A previous Authority report showed the average length of stay for a hip replacement in 2011–12 was 6.4 days.⁷ At **major metropolitan** hospitals, the average length of stay ranged from 3.8 to 15.0 days, and at **major regional** hospitals the average length of stay ranged from 3.2 to 9.6 days.⁷

By comparing the cost of a patient's hip replacement to their length of stay it is possible to assess the incremental cost that each additional day(s) spent in hospital contributes to the patient's costs of care (**Figure 12**).

It is important to note that these costs do not reflect the total costs of this procedure. The report considers only the subset of total costs that are fully comparable between hospitals. For example, it excludes property, plant and equipment costs.

Figure 12: Average cost for a hip replacement without complications or comorbidities in major public hospitals, by length of stay, 2011–12



Sources: National Health Performance Authority analysis of results calculated using the National Hospital Cost Data Collection 2011–12 and Admitted Patient Care National Minimum Dataset 2011–12.

Knee replacement

Without complications or comorbidities

Knee replacements, also known as knee arthroplasty, are surgical procedures to replace a damaged knee, most commonly for arthritis. The data presented here relate to costs incurred by a hospital for patients who were admitted for a knee replacement without complications or comorbidities.

In 2011–12, there were 5,613 knee replacements without complications or comorbidities in **major metropolitan** and **major regional** public hospitals.

CA

Across all **major metropolitan** hospitals, the average cost of a knee replacement was \$18,800. The average cost of a knee replacement ranged from \$10,600 at one hospital to \$29,300 at another.

Across all **major regional** hospitals, the average cost of a knee replacement was \$18,100. The average cost of a knee replacement ranged from \$10,700 at one hospital to \$22,600 at another hospital.

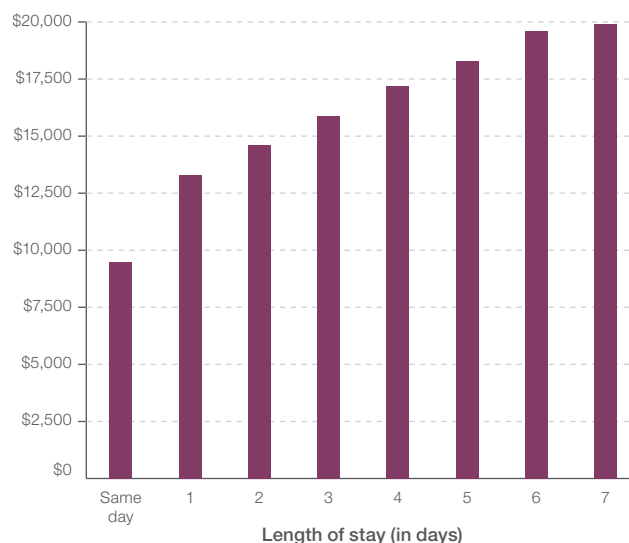
LOS

A previous Authority report showed the average length of stay for a knee replacement in 2011–12 was 5.5 days.⁷ At **major metropolitan** hospitals, the average length of stay ranged from 3.3 to 8.7 days, and at **major regional** hospitals the average length of stay ranged from 2.1 to 9.5 days.⁷

By comparing the cost of a patient's knee replacement to their length of stay it is possible to assess the incremental cost that each additional day(s) spent in hospital contributes to the patient's costs of care (**Figure 13**).

It is important to note that these costs do not reflect the total costs of this procedure. The report considers only the subset of total costs that are fully comparable between hospitals. For example, it excludes property, plant and equipment costs.

Figure 13: Average cost for a knee replacement without complications or comorbidities in major public hospitals, by length of stay, 2011–12



Sources: National Health Performance Authority analysis of results calculated using the National Hospital Cost Data Collection 2011–12 and Admitted Patient Care National Minimum Dataset 2011–12.

Gallbladder removal

Without complications or comorbidities

Gallbladder removal, or cholecystectomy, is a surgical procedure generally performed to treat a patient with gallstones. The data presented here relate to costs incurred by a hospital for patients who were admitted for gallbladder removal without complications or comorbidities.

In 2011–12, there were 13,034 admissions for gallbladder removal without complications or comorbidities in **major metropolitan** and **major regional** public hospitals.

CA

Across all **major metropolitan** hospitals, the average cost of a gallbladder removal was \$7,400. The average cost of a gallbladder removal ranged from \$4,800 at one hospital to \$13,000 at another.

Across all **major regional** hospitals, the average cost of a gallbladder removal was \$7,000. The average cost of a gallbladder removal ranged from \$4,100 at one hospital to \$11,700 at another.

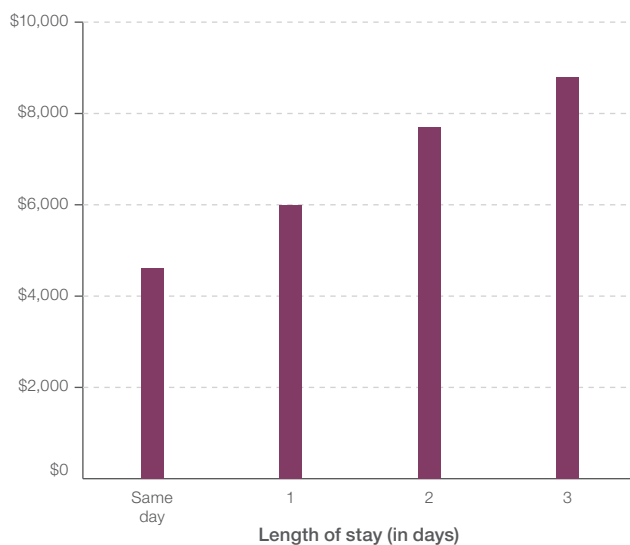
LOS

A previous Authority report showed the average length of stay for gallbladder removal in 2011–12 was 1.9 days.⁷ At **major metropolitan** hospitals, the average length of stay ranged from 1.1 to 3.2 days, and at **major regional** hospitals the average length of stay ranged from 1.4 to 2.6 days.⁷

By comparing the cost of a patient's gallbladder removal to their length of stay it is possible to assess the incremental cost that each additional day(s) spent in hospital contributes to the patient's costs of care (**Figure 14**).

It is important to note that these costs do not reflect the total costs of this procedure. The report considers only the subset of total costs that are fully comparable between hospitals. For example, it excludes property, plant and equipment costs.

Figure 14: Average cost for gallbladder removal without complications or comorbidities in major public hospitals, by length of stay, 2011–12



Sources: National Health Performance Authority analysis of results calculated using the National Hospital Cost Data Collection 2011–12 and Admitted Patient Care National Minimum Dataset 2011–12.

Prostate removal

Without complications or comorbidities

Prostate removal is the surgical removal of all or part of the prostate gland, most commonly performed through the urethra. The data presented here relate to costs incurred by a hospital for patients who were admitted for transurethral prostate removal without complications or comorbidities.

In 2011–12, there were 3,438 admissions for prostate removal without complications or comorbidities in **major metropolitan** and **major regional** public hospitals.

CA

Across all **major metropolitan** hospitals, the average cost of prostate removal was \$6,300. The average cost of prostate removal ranged from \$4,700 at one hospital to \$7,500 at another.

Across all **major regional** hospitals, the average cost of prostate removal was \$7,000. The average cost of prostate removal ranged from \$5,200 at one hospital to \$8,600 at another.

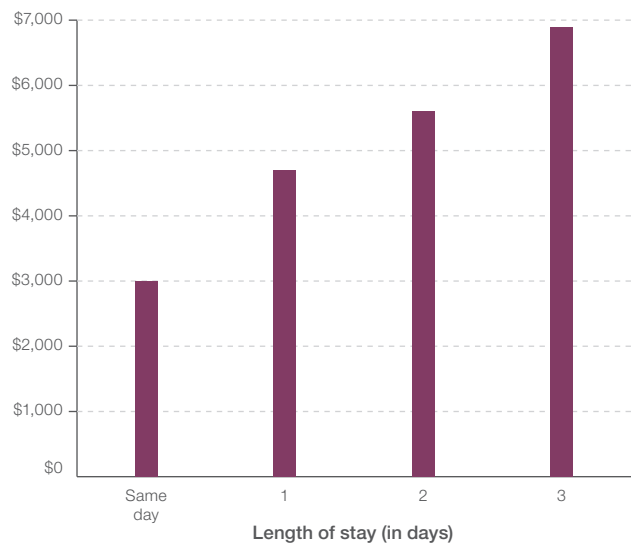
LOS

A previous Authority report showed the average length of stay for prostate removal in 2011–12 was 2.7 days.⁷ At **major metropolitan** hospitals, the average length of stay ranged from 1.9 to 3.9 days, and at **major regional** hospitals the average length of stay ranged from 1.9 to 5.3 days.⁷

By comparing the cost of a patient's prostate removal to their length of stay it is possible to assess the incremental cost that each additional day(s) spent in hospital contributes to the patient's costs of care (**Figure 15**).

It is important to note that these costs do not reflect the total costs of this procedure. The report considers only the subset of total costs that are fully comparable between hospitals. For example, it excludes property, plant and equipment costs.

Figure 15: Average cost for prostate removal without complications or comorbidities in major public hospitals, by length of stay, 2011–12



Sources: National Health Performance Authority analysis of results calculated using the National Hospital Cost Data Collection 2011–12 and Admitted Patient Care National Minimum Dataset 2011–12.

Vaginal delivery

Without complications or comorbidities

Around 300,000 children are born in Australia each year,⁹ and about 70% of these births take place in public hospitals. The data presented here relate to costs incurred by a hospital for patients who were admitted for vaginal delivery without complications or comorbidities.

In 2011–12, there were 53,234 vaginal births without complications or comorbidities at **major metropolitan** and **major regional** public hospitals.

CA

Across all **major metropolitan** hospitals, the average cost of a vaginal delivery was \$4,600. The average cost of a vaginal delivery ranged from \$2,200 at one hospital to \$6,500 at another.

Across all **major regional** hospitals, the average cost of a vaginal delivery was \$5,100. The average cost of a vaginal delivery ranged from \$3,100 at one hospital to \$7,500 at another.

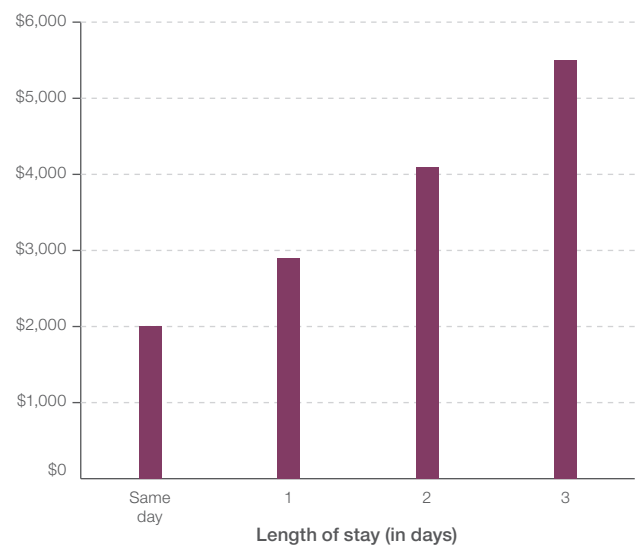
LOS

A previous Authority report showed the average length of stay for vaginal delivery in 2011–12 was 2.5 days.⁷ At **major metropolitan** hospitals, the average length of stay ranged from 2.0 to 3.1 days, and at **major regional** hospitals the average length of stay ranged from 2.1 to 3.4 days.⁷

By comparing the cost of a patient's vaginal delivery to their length of stay it is possible to assess the incremental cost that each additional day(s) spent in hospital contributes to the patient's costs of care (**Figure 16**).

It is important to note that these costs do not reflect the total costs of this procedure. The report considers only the subset of total costs that are fully comparable between hospitals. For example, it excludes property, plant and equipment costs.

Figure 16: Average cost for vaginal delivery without complications or comorbidities in major public hospitals, by length of stay, 2011–12



Sources: National Health Performance Authority analysis of results calculated using the National Hospital Cost Data Collection 2011–12 and Admitted Patient Care National Minimum Dataset 2011–12.

Caesarean delivery

Without complications or comorbidities

Around 300,000 children are born in Australia each year⁹, and about 70% of these births take place in public hospitals. The data presented here relate to costs incurred by a hospital for patients who were admitted for a caesarean delivery without complications or comorbidities.

In 2011–12, there were 23,935 caesarean deliveries without complications or comorbidities at **major metropolitan** and **major regional** public hospitals.

CA

Across all **major metropolitan** hospitals, the average cost of a caesarean delivery was \$8,800. The average cost of a caesarean delivery ranged from \$5,500 at one hospital to \$15,300 at another.

Across all **major regional** hospitals, the average cost of a caesarean delivery was \$9,800. The average cost of a caesarean delivery ranged from \$6,500 at one hospital to \$16,300 at another.

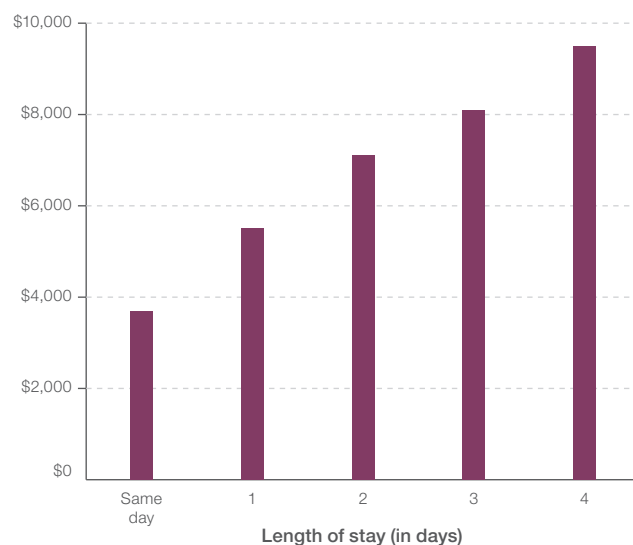
LOS

A previous Authority report showed the average length of stay for caesarean delivery in 2011–12 was 3.8 days.⁷ At **major metropolitan** hospitals, the average length of stay ranged from 3.0 to 4.7 days, and at **major regional** hospitals the average length of stay ranged from 3.0 to 4.8 days.⁷

By comparing the cost of a patient's caesarean delivery to their length of stay it is possible to assess the incremental cost that each additional day(s) spent in hospital contributes to the patient's costs of care (**Figure 17**).

It is important to note that these costs do not reflect the total costs of this procedure. The report considers only the subset of total costs that are fully comparable between hospitals. For example, it excludes property, plant and equipment costs.

Figure 17: Average cost for caesarean delivery without complications or comorbidities in major public hospitals, by length of stay, 2011–12



Sources: National Health Performance Authority analysis of results calculated using the National Hospital Cost Data Collection 2011–12 and Admitted Patient Care National Minimum Dataset 2011–12.

Gynaecological reconstructive procedures

Without complications or comorbidities

Gynaecological reconstructive procedures are repairs to the female reproductive system for conditions such as prolapse. The data presented here relate to costs incurred by a hospital for patients who were admitted for gynaecological reconstructive procedures without complications or comorbidities.

In 2011–12, there were 2,793 admissions for gynaecological reconstructive procedures without complications or comorbidities in **major metropolitan** and **major regional** public hospitals.

CA

Across all **major metropolitan** hospitals, the average cost per admission for gynaecological reconstructive procedures was \$6,300. The average cost per admission ranged from \$4,100 at one hospital to \$8,000 at another hospital.

Across all **major regional** hospitals, the average cost per admission for gynaecological reconstructive procedures was \$5,900. The average cost per admission ranged from \$4,100 at one hospital to \$7,000 at another hospital.

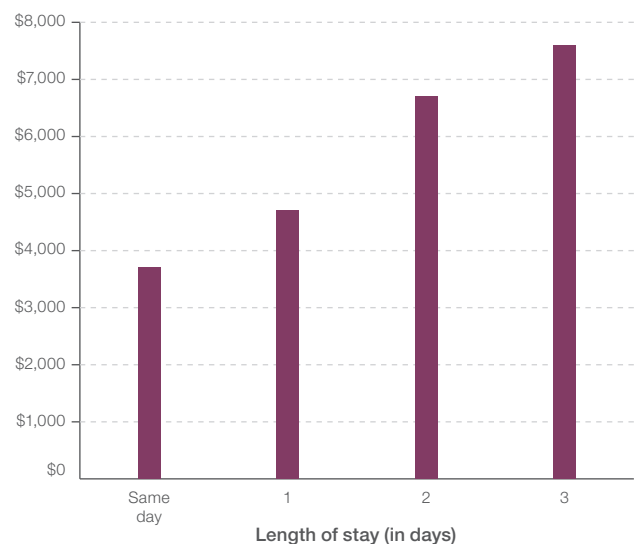
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A previous Authority report showed the average length of stay for gynaecological reconstructive procedures in 2011–12 was 2.2 days.⁷ At **major metropolitan** hospitals, the average length of stay ranged from 1.3 to 3.8 days, and at **major regional** hospitals the average length of stay ranged from 1.4 to 2.9 days.⁷

By comparing the cost of a patient's gynaecological reconstructive procedures to their length of stay it is possible to assess the incremental cost that each additional day(s) spent in hospital contributes to the patient's costs of care (**Figure 18**).

It is important to note that these costs do not reflect the total costs of these procedures. The report considers only the subset of total costs that are fully comparable between hospitals. For example, it excludes property, plant and equipment costs.

Figure 18: Average cost for gynaecological reconstructive procedures without complications or comorbidities in major public hospitals, by length of stay, 2011–12



Sources: National Health Performance Authority analysis of results calculated using the National Hospital Cost Data Collection 2011–12 and Admitted Patient Care National Minimum Dataset 2011–12.

Hysterectomy

Without complications or comorbidities

Hysterectomy is the surgical removal of a woman's uterus or womb. The data presented here relate to costs incurred by a hospital for patients who were admitted for a hysterectomy without complications or comorbidities and who did not have malignant cancer.

In 2011–12, there were 4,373 admissions for hysterectomy without complications or comorbidities and who did not have malignant cancer in **major metropolitan** and **major regional** public hospitals.

CA

Across all **major metropolitan** hospitals, the average cost per admission for hysterectomy was \$9,200. The average cost per admission ranged from \$5,400 at one hospital to \$19,900 at another hospital.

Across all **major regional** hospitals, the average cost per admission for hysterectomy was \$8,700. The average cost per admission ranged from \$5,500 at one hospital to \$10,900 at another hospital.

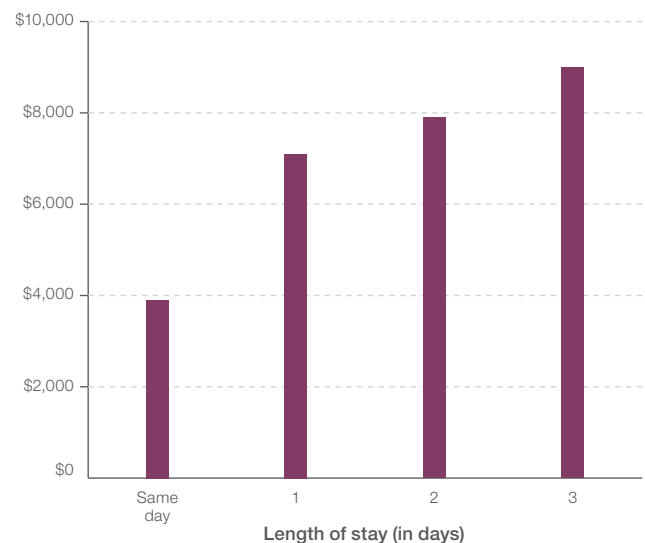
LOS

A previous Authority report showed the average length of stay for a hysterectomy in 2011–12 was 3.0 days.⁷ At **major metropolitan** hospitals, the average length of stay ranged from 2.5 to 3.7 days, and at **major regional** hospitals the average length of stay ranged from 2.0 to 4.0 days.⁷

By comparing the cost of a patient's hysterectomy to their length of stay it is possible to assess the incremental cost that each additional day(s) spent in hospital contributes to the patient's costs of care (**Figure 19**).

It is important to note that these costs do not reflect the total costs of this procedure. The report considers only the subset of total costs that are fully comparable between hospitals. For example, it excludes property, plant and equipment costs.

Figure 19: Average cost for hysterectomy without complications or comorbidities in major public hospitals, by length of stay, 2011–12



Sources: National Health Performance Authority analysis of results calculated using the National Hospital Cost Data Collection 2011–12 and Admitted Patient Care National Minimum Dataset 2011–12.

Appendices

Appendix 1: Cost per NWAU, Comparable Cost of Care in public hospitals, 2011–12

	Major metropolitan hospitals	Number of NWAUs	Cost per NWAU	Number of units of activity	Comparable Cost of Care
NSW	Bankstown-Lidcombe Hospital	32,726	\$3,900	35,434	\$4,400
	Campbelltown Hospital	30,709	\$4,300	33,052	\$4,900
	Concord Hospital	*	*	45,979	\$5,000
	Gosford Hospital	40,842	\$4,300	45,725	\$4,800
	Hornsby Ku-ring-gai Hospital	16,791	\$4,200	19,208	\$4,800
	John Hunter Hospital	68,828	\$4,100	77,584	\$4,500
	Liverpool Hospital	65,914	\$4,100	70,583	\$4,800
	Nepean Hospital	50,214	\$4,100	52,755	\$4,900
	Prince of Wales Hospital	43,439	\$4,800	47,773	\$5,400
	Royal Prince Alfred Hospital	70,786	\$4,200	84,091	\$4,700
	St George Hospital	47,515	\$4,400	54,978	\$5,000
	St Vincent's Hospital [Darlinghurst]	36,781	\$4,400	41,863	\$5,100
	The Sutherland Hospital	20,014	\$4,200	24,085	\$4,700
	The Tweed Hospital	20,121	\$4,400	20,884	\$5,100
	Westmead Hospital	74,330	\$4,700	80,937	\$5,400
	Wollongong Hospital	42,922	\$4,300	47,822	\$4,900
Wyong Hospital	18,098	\$4,400	20,384	\$5,000	
Vic	Austin Hospital [Heidelberg]	62,178	\$3,900	68,319	\$4,500
	Box Hill Hospital	44,447	\$3,900	47,847	\$4,400
	Casey Hospital	*	*	16,593	\$4,000
	Dandenong Hospital	46,327	\$3,400	48,524	\$3,800
	Geelong Hospital	55,746	\$3,700	60,045	\$4,200
	Maroondah Hospital [East Ringwood]	26,952	\$3,100	29,362	\$3,700
	Monash Medical Centre [Clayton]	68,487	\$3,900	70,790	\$4,400
	Royal Melbourne Hospital [Parkville]	75,030	\$3,400	84,347	\$3,900
	St Vincent's Hospital [Fitzroy]	52,183	\$4,000	52,940	\$4,500
	Sunshine Hospital	30,140	\$3,400	31,786	\$3,900
	The Alfred	80,243	\$3,900	90,956	\$4,500
	The Northern Hospital [Epping]	42,477	\$3,400	44,823	\$3,900
Western Hospital [Footscray]	43,039	\$3,600	44,979	\$3,900	
Qld	Caboolture Hospital	17,970	\$4,700	19,405	\$4,700
	Gold Coast Hospital	73,844	\$4,800	76,858	\$5,200
	Ipswich Hospital	29,077	\$4,300	30,234	\$4,800
	Logan Hospital	33,407	\$5,300	33,421	\$5,700
	Mater Adult Hospital	20,106	\$4,900	*	*
	Princess Alexandra Hospital	86,478	\$4,500	90,089	\$5,100
	Redcliffe Hospital	23,316	\$4,200	25,020	\$4,600
	Royal Brisbane & Women's Hospital	94,625	\$5,000	98,662	\$5,500
	The Prince Charles Hospital	49,902	\$5,200	52,871	\$5,700
WA	Fremantle Hospital	47,496	\$5,100	52,034	\$5,400
	Royal Perth Hospital [Wellington Street Campus]	77,407	\$5,100	87,772	\$5,400
	Sir Charles Gairdner Hospital	72,754	\$5,500	79,976	\$5,900
SA	Flinders Medical Centre	73,264	\$4,700	75,470	\$5,100
	Lyell McEwin Hospital	40,752	\$4,100	41,669	\$4,700
	The Queen Elizabeth Hospital	36,532	\$5,100	38,720	\$5,600
	The Royal Adelaide Hospital	88,196	\$4,600	95,173	\$5,000
ACT	Calvary Public Hospital	19,540	\$5,300	20,087	\$6,300
	The Canberra Hospital	61,439	\$5,800	65,824	\$6,500

Large metropolitan hospitals		Number of NWAUs	Cost per NWAU	Number of units of activity	Comparable Cost of Care
NSW	Canterbury Hospital	13,842	\$4,200	14,889	\$4,800
	Fairfield Hospital	15,881	\$3,800	16,427	\$4,300
	Manly Hospital	10,954	\$4,400	13,285	\$5,100
	Mona Vale Hospital	8,213	\$4,000	11,067	\$4,900
	Ryde Hospital	7,769	\$5,100	9,584	\$5,900
	Shellharbour Hospital	9,903	\$4,300	10,506	\$4,700
Vic	Angliss Hospital	12,768	\$4,000	13,425	\$4,700
	Sandringham Hospital	8,906	\$3,200	9,625	\$4,000
	Werribee Mercy Hospital	13,198	\$3,500	*	*
Qld	Redland Hospital	14,438	\$4,100	14,972	\$4,500
WA	Armadale Kelmescott Memorial Hospital	17,250	\$4,500	18,192	\$5,000
	Rockingham General Hospital	13,351	\$6,400	13,863	\$6,800
	Swan District Hospital	15,154	\$4,500	16,263	\$5,000
Major regional hospitals					
NSW	Coffs Harbour Base Hospital	22,208	\$4,100	24,232	\$4,700
	Dubbo Base Hospital	15,541	\$4,000	16,705	\$4,700
	Lismore Base Hospital	22,113	\$4,400	23,504	\$5,100
	Manning Hospital	11,960	\$4,400	13,174	\$4,800
	Orange Health Service	18,999	\$4,600	20,449	\$5,300
	Port Macquarie Base Hospital	17,595	\$4,300	19,233	\$5,000
	Shoalhaven Hospital	12,330	\$4,700	13,848	\$5,300
	Tamworth Hospital	19,496	\$3,700	21,344	\$4,200
	Wagga Wagga Base Hospital	21,638	\$4,600	23,194	\$5,200
Vic	Ballarat Health Services [Base Campus]	25,747	\$3,800	27,418	\$4,400
	Goulburn Valley Health [Shepparton]	16,889	\$4,100	18,437	\$4,600
	Latrobe Regional Hospital [Traralgon]	18,654	\$3,600	*	*
	Southwest Health Care [Warrnambool]	12,562	\$3,900	*	*
Qld	Bundaberg Hospital	17,980	\$4,600	19,498	\$4,900
	Cairns Base Hospital	41,460	\$3,900	43,216	\$4,500
	Hervey Bay Hospital	12,624	\$5,300	13,924	\$5,800
	Mackay Base Hospital	18,514	\$4,800	20,290	\$5,200
	Nambour General Hospital	41,318	\$4,600	44,294	\$5,000
	Rockhampton Base Hospital	19,837	\$4,700	21,316	\$5,200
	The Townsville Hospital	56,642	\$4,300	58,400	\$4,900
Toowoomba Hospital	26,696	\$4,400	27,272	\$4,800	
Tas	Launceston General Hospital	27,823	\$3,900	30,150	\$4,600
	Royal Hobart Hospital	44,532	\$4,700	47,788	\$5,200
NT	Alice Springs Hospital	24,859	\$4,300	25,099	\$4,900
	Royal Darwin Hospital	45,986	\$4,900	45,994	\$5,500

* In 2011–12, data for this hospital did not meet the minimum criteria to provide a result for Cost per NWAU or Comparable Cost of Care. Please refer to the Technical Supplement for more information on the minimum data requirements and inclusion criteria.

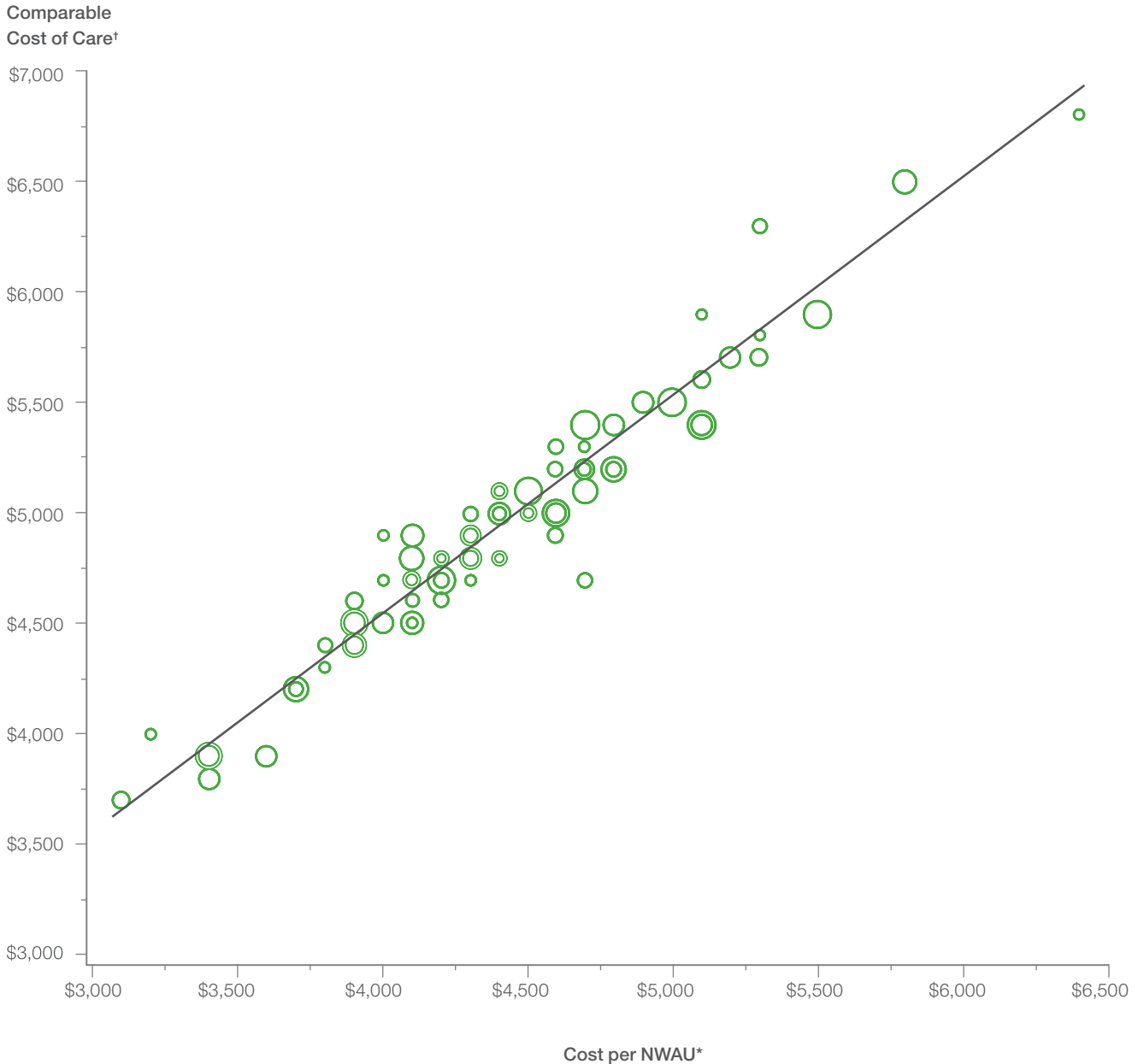
Sources: National Health Performance Authority analysis of results calculated using the National Hospital Cost Data Collection 2011–12 and Admitted Patient Care National Minimum Dataset 2011–12.

Appendix 2: Additional public hospitals for which results are available on the MyHospitals website

Additional hospitals with results on the MyHospitals website*	
NSW	Bathurst Hospital
	Goulburn Hospital
	Grafton Base Hospital
Vic	Albury Wodonga Health [Wodonga Campus]
	Bairnsdale Regional Health Service
	Central Gippsland Health Service [Sale]
	Mildura Base Hospital
	Northeast Health Wangaratta
	West Gippsland Healthcare Group [Warragul]
	Wimmera Base Hospital [Horsham]
Tas	North West Regional Hospital

* These hospitals have not been included in the main body of this report because they cannot reliably be used to support fair comparisons within peer groups for both measures.

Appendix 3: Distribution of the relative efficiency of major metropolitan, large metropolitan and major regional public hospitals using Comparable Cost of Care and Cost per NWAU, 2011–12



The size of the sphere represents the units of activity (i.e. weighted separations based on Comparable Cost of Care) which ranges from 9,500 to 98,700

* The NWAU has been calculated using the National Efficient Price Determination 2014–15.
 † The line of best fit has been calculated using all hospital results where Cost per NWAU and Comparable Cost of Care are available. Results for hospitals with less than eight hospitals in a peer group for both measures are not shown on the graph.

Sources: National Health Performance Authority analysis of results calculated using the National Hospital Cost Data Collection 2011–12 and Admitted Patient Care National Minimum Dataset 2011–12.

Glossary

Below is a list of the main technical terms used in the report and accompanying Technical Supplement. To check the meaning of terms not listed here, or other health-related words, visit the online glossary at www.myhospitals.gov.au

Activity Based Funding (ABF)	Activity Based Funding (ABF) is a way of funding hospitals under which they are paid for the number and mix of patients they treat. For example, if a hospital treats more patients, it receives more funding. However, because some patients are more complicated to treat than others, ABF also takes into account various adjustments.
Acute care	Care in which the intent is to perform surgery, diagnostic or therapeutic procedures in the treatment of illness or injury. Management of childbirth is also considered acute care.
Admitted patient	A patient who undergoes a hospital's admission process to receive treatment and/or care. This treatment and/or care is provided over a period of time and can occur in hospital and/or in the person's home (for hospital-in-the-home patients).
Admitted Patient Care National Minimum Data Set (APC NMDS)	The Admitted Patient Care National Minimum Data Set (APC NMDS) collects information about care provided to admitted patients in Australian hospitals. The APC NMDS includes episodes of care for admitted patients in all public and private acute and psychiatric hospitals, free-standing day hospital facilities and alcohol and drug treatment centres in Australia. Hospitals specialising in dental, ophthalmic aids and other specialised acute medical or surgical care are also included. Hospitals operated by the Australian Defence Force, corrections authorities and in Australia's off-shore territories may also be included. Hospital boarders and still births are not included as they are not admitted to hospital. Posthumous organ procurement episodes are also not included.
Australian Refined Diagnosis Related Group (AR-DRG)	A classification system that allows different types of patients to be categorised according to their condition, procedure or diagnosis.
Average length of stay	The average (mean) number of days spent in hospital for each stay (episode of care) for patients who stayed at least one night.
Block funding	A method of funding public hospitals, used for hospitals deemed too small for Activity Based Funding to operate effectively, and in some other instances.

Comparable Cost of Care	Comparable Cost of Care is a measure that focuses on the comparable costs of acute admitted patients and includes the costs of emergency department patients who are subsequently admitted to allow for an assessment of the relative efficiency of public hospitals.
Compensable patient	A patient whose costs of care will be claimable by the hospital from motor vehicle accident, workers' compensation insurance, Department of Defence or Department of Veterans' Affairs.
Cost per admission	A measure developed by the Authority that shows how much money on average different hospitals spend to treat patients admitted for selected conditions or procedures.
Cost per National Weighted Activity Unit (NWAU)	Cost per National Weighted Activity Unit (NWAU) is a measure of the average cost of a unit of activity provided to acute admitted patients in a public hospital.
Independent Hospital Pricing Authority (IHPA)	The Independent Hospital Pricing Authority (IHPA) is an independent government agency established by the Commonwealth as part of the <i>National Health Reform Act 2011</i> . Its primary function is to calculate and deliver the annual National Efficient Price.
Indigenous Patient Adjustment	Accounts for the higher costs of treating patients of Aboriginal and Torres Strait Islander origin.
Intensive Care Unit Adjustment	Accounts for higher costs of patients who required an admission to an intensive care unit (level III) during their stay in hospital where most patients with similar conditions would not.
Intensive care unit (ICU), level III	An intensive care unit, level III is a facility capable of providing complex, multisystem life support for an indefinite period; be a tertiary referral centre for patients in need of intensive care services and have extensive backup laboratory and clinical service facilities to support the tertiary referral role. It must be capable of providing mechanical ventilation, extracorporeal renal support services and invasive cardiovascular monitoring for an indefinite period; or care of a similar nature.
Legitimate costs	Costs that, although higher, are considered unavoidable due to the characteristics of the patients involved. These include patients requiring: treatment in a specialist paediatric facility, psychiatric care, radiotherapy and admission to intensive care unit, level III. It can also include the increased ED, unavoidable costs of treating rural and/or remote patients and Aboriginal and Torres Strait Islander people.

Length of stay	See average length of stay.
Local Hospital Network (LHN)	A Local Hospital Network (LHN) is an organisation that provides public hospital services in accordance with the National Health Reform Agreement. Some states and territories use their own terminology to describe these networks, such as Local Health Districts (NSW), Hospital and Health Services (Qld), Local Health Networks (SA) and Tasmanian Health Organisations. LHNs can comprise one or more hospitals, and they are usually defined as the hospitals serving a particular geographic area or a community, or as hospitals serving a particular function (for example, children's hospitals or other specialist facilities within a state or territory).
National Efficient Price (NEP)	The National Efficient Price (NEP) is a major determinant of the level of Australian Government funding for public hospital services through Activity Based Funding. It establishes a price signal for the efficient cost of providing public hospital services.
National Hospital Cost Data Collection (NHCDC)	The National Hospital Cost Data Collection (NHCDC) is the primary data collection used to develop the National Efficient Price (NEP) and the National Efficient Cost (NEC). It is an annual collection of public hospital cost data.
NWAU (National Weighted Activity Unit)	The National Weighted Activity Unit (NWAU) was developed by the Independent Hospital Pricing Authority (IHPA) to allow different hospital activities to be expressed as a common unit of activity and to set the pricing of public hospital services. The NWAU accounts for the differences in the complexity of patients' conditions or procedures and individual patient characteristics that lead to increased costs.
Private patient	Refers to a privately insured or self-funded patient.
Private Patient Service Adjustment	A discount to the NWAU for private patients to account for income received by a hospital from a health insurance scheme or self-funded patient.
Private sources	Patients admitted and paid for by motor vehicle accident insurance, workers' compensation insurance, private health insurance or who are self-funded.

Property, plant and equipment	Includes land, buildings, magnetic resonance imaging (MRI) scanners and hospital furniture such as beds, where the costs were (a) capitalised and recorded as an asset and (b) expended through depreciation. These costs were not included as part of the costs analysed in this report. However, purchases of property, plant and equipment that were worth less than a certain amount, known as a 'state and territory asset capitalisation threshold', have been included as part of the analysis.
Radiotherapy Adjustment	Accounts for the higher costs in providing radiotherapy to admitted patients, compared to patients with similar conditions.
Remoteness Area Adjustment	Accounts for the higher costs of treating people who live in rural and remote areas.
Separation	A technical term for the end of an episode of care. This report presents episodes of care that have been completed so the number of separations equals the number of episodes of care within the financial year.
Specialist Paediatric Adjustment	Accounts for higher costs of patients treated in specialist paediatric facilities, where there is a statistically significant difference in the cost of delivering services, compared to other facilities.
Specialist Psychiatric Age Adjustment	Accounts for higher costs of patients who have one or more psychiatric care days during their acute admission, with the rate of adjustment dependent on the person's age.
Special Purpose Accounts and Trust Funds	A set of accounts recorded in a separate general ledger to the hospital's operating general ledger. The funds are not in trust to any particular person. The Trust Fund at some hospitals account for the income from admitted patients covered by private sources. The set of accounts recording this information may not necessarily be submitted to the National Hospital Cost Data Collection for respective hospitals.
Unit of activity	A measure representing the volume and complexity of patients and increased resource requirements within a hospital.

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Acknowledgements

This report has benefited from advice from a number of individuals and organisations with interest and expertise in understanding the reporting of hospital costs and relative efficiency.

The National Health Performance Authority established the Cost per Weighted Separation Stakeholder Advisory Committee to provide advice around clinical and administrative aspects of this work. The committee members were:

- Associate Professor Brian McCaughan AM (Chairman), Cardiothoracic Surgeon
- Dr Stephen Duckett, Grattan Institute
- Ms Christine Gunson, Consumer Representative
- Mr Lynton Norris, Chief Executive Officer, National Health Funding Body
- Mr Neville Onley, NSW Ministry of Health
- Dr Ian Scott, Director, Department of Internal Medicine and Clinical Epidemiology, Princess Alexandra Hospital
- Dr Tony Sherbon*, Chief Executive Officer, Independent Hospital Pricing Authority
- Professor Diane Twigg, Professor of Nursing, Edith Cowan University
- Mr Ian Wright, Executive Director Finance and Business Services, West Moreton Hospital and Health Service.

The Performance Authority also established the Cost per Weighted Separation Technical Advisory Committee to learn from experts working in this area across Australia. The committee members were:

- Associate Professor Terri Jackson, Principal Research Fellow, Northern Health (Vic) Clinical Research Centre and School of Population Health, University of Melbourne

- Mr James Downie, Executive Director, Activity Based Funding, Independent Hospital Pricing Authority
- Mr Efstathios Tsangaris, Director Hospital Costing, Independent Hospital Pricing Authority
- Dr Phuong Nguyen, Manager Funding Systems Development, Department of Health Victoria
- Mr Alfa D'Amato, Deputy Director, Activity Based Funding Taskforce, NSW Ministry of Health
- Mr Paul McGuire, Senior Director Funding and Resourcing Branch, Queensland Health
- Ms Jenny Hargreaves, Senior Executive, Hospitals, Resourcing and Classifications Group, Australian Institute of Health and Welfare
- Dr Adrian Webster, Unit Head, Expenditure and Workforce, Australian Institute of Health and Welfare.

Committee members did not have any role in the writing of this report.

The Authority received advice from its Jurisdictional Advisory Committee with regard to methods and content.

This report relies on data provided by state and territory governments. These data were used to calculate the performance measures in this report. The Authority conducts checks to ensure data quality and also relies on the data quality work of the AIHW and IHPA. The Authority provides jurisdictions with the opportunity to verify their data.

Thanks are extended to all those who contributed.

* Proxy – Mr Luke Clarke, Director Policy Development, Independent Hospital Pricing Authority.

About the Authority

The National Health Performance Authority has been set up as an independent agency under the *National Health Reform Act 2011*. It commenced full operations in 2012.

Under the terms of the Act, the Authority monitors and reports on the performance of Local Hospital Networks, public and private hospitals, primary health care organisations and other bodies that provide health care services.

The Authority's reports give all Australians access to timely and impartial information that allows them to compare fairly their local health care organisations against other similar organisations and against national standards.

The reports let people see, often for the first time, how their local health care organisations measure up against comparable organisations across Australia.

The Authority's activities are also guided by a document known as the Performance and Accountability Framework agreed by the Council of Australian Governments. The framework contains a set of indicators that form the basis for the Authority's performance reports.

The Authority's role includes reporting on the performance of health care organisations against these indicators in order to identify both high-performing Local Hospital Networks, primary health care organisations and hospitals (so effective practices can be shared), and Local Hospital Networks and primary health care organisations that perform poorly (so that steps can be taken to address problems).

In addition to publishing regular print-style reports, the Authority releases performance information on the MyHospitals website (www.myhospitals.gov.au) and the MyHealthyCommunities website (www.myhealthycommunities.gov.au), and presents other information about its activities on www.nhpa.gov.au

The Authority consists of a Chairman, a Deputy Chairman and five other members, appointed for up to five years. Members of the Authority are:

- Ms Patricia Faulkner AO (Chairman)
- Mr John Walsh AM (Deputy Chairman)
- Dr David Filby PSM
- Professor Claire Jackson
- Professor Michael Reid
- Dr Michael Stanford
- Professor Bryant Stokes AM RFD (on leave)
- Professor Paul Torzillo AM.

The conclusions in this report are those of the Authority. No official endorsement from any Minister, department of health or health care organisation is intended or should be inferred.

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